LITTLE ROCK, ARKANSAS

The civil works portion of this District covers an area of approximately 36,414 square miles in northern, western, and southwestern Arkansas and a portion of Missouri. This area is within the Arkansas River, Little River, and White River basins. In the Arkansas River Basin, the District is responsible for planning, design, construction, operation, and maintenance of the navigation portion of the McClellan-Kerr Arkansas River Navigation System (MCKARNS). The District is also responsible for the areas included in the Arkansas River drainage basin from above Pine Bluff, AR, to below the mouth of the Poteau River, near Fort Smith, AR. In Little River Basin, the District is responsible for the portion of the Little River and its tributaries that are in the state of Arkansas above its mouth near Fulton, AR. In the White River Basin, the District is responsible for those portions in southern Missouri and northern and eastern Arkansas in the White River drainage basin and its tributaries above Peach Orchard Bluff, AR. The Memphis District is responsible for navigation maintenance on the White River below Newport, AR, to the mouth of Wild Goose Bayou, in Arkansas County, AR. The White River downstream from the mouth of Wild Goose Bayou is part of MCKARNS.

IMPROVEMENTS

Navigation

1. ARKANSAS RIVER BASIN, AR, OK, AND KS

Location. The headwaters for the Arkansas River are in the Rocky Mountains near Leadville, CO. The river flows southeastward 1,396 miles through Colorado, Kansas, Oklahoma, and Arkansas to join the Mississippi River 599 miles above Head of Passes, LA.

Previous projects. For details see page 1066, Annual Report for 1932, and pages 744, 864, and 881, Annual Report for 1943.

Existing project. The MCKARNS provides navigation, hydroelectric power, flood control, water supply, sediment control, recreation, and fish and wildlife propagation improvements in the Arkansas River Basin. The MCKARNS provides a navigation channel 9 feet deep and 444.8 miles long. The channel begins at the mouth of the White River, which enters the Mississippi River 599 miles above Head of Passes, LA, thence 9.8 miles upstream to the mouth of Wild Goose Bayou; thence 9.2 miles by a land cut, designated as Arkansas Post Canal to mile 42 (1943 survey) on the Arkansas River; thence 376.0 miles to the mouth of the Verdigris River at navigation mile 395.0; thence 49.8 miles up the Verdigris River to the head of navigation at Catoosa, OK.

The waterway is canalized throughout its length by 17 locks and dams with a total lift of 420 feet. Dardanelle, Ozark-Jeta Taylor, Robert S. Kerr, and Webbers Falls are multiple purpose projects that include hydropower. Lock chambers are 110 by 600 feet. A minimum channel width of 150 feet is provided for the Verdigris River, 225 feet for San Bois Creek, 250 feet for the Arkansas River, and 300 feet for Arkansas Post Canal and White River Entrance Channel.

Other coordinated developments consist of 15 lakes, of which 13 are in Tulsa District, in the states of Kansas and Oklahoma, and two are in the Little Rock District. Pertinent data and estimated Federal cost are summarized in Tables 37-H and 37-I, Navigation: Arkansas River Basin, AR, OK, and KS.

Local cooperation. For MCKARNS, local interests must provide adequate terminal and transfer facilities and bear the increased costs of maintenance and operation of all altered rail and highway routes, including bridges and appurtenances, utilities, and other existing improvements, other than federally owned. For lakes see requirements for each individual lake.

Terminal facilities. Public port facilities are in operation at Pine Bluff (Jefferson County), Little Rock, and Fort Smith, AR, and Muskogee and Catoosa (Tulsa-Rogers County), OK. Port authorities have been organized to develop public facilities at North Little Rock, Dardanelle-Russellville, Morrilton, Clarksville, Ozark, and Van Buren, AR, and Sallisaw, OK. Terminal facilities are in operation or being built at 35 locations in Arkansas and at 25 locations in Oklahoma along the improved waterways.

Operations and results during fiscal year.

Flood damages prevented by Little Rock District levee projects in the Arkansas River Basin during FY03 are estimated at $1,006,900; flood losses prevented through FY03 are estimated at $814,288,200.

Approximately 12.4 million tons of commerce was moved on the Arkansas portion of the MCKARNS during calendar year 2002. Details of the MCKARNS and lakes in Arkansas are shown on the following pages.

Withdrawals for water supply purposes were the city of Plainview, AR, 90.25 acre-feet from Nimrod Lake.

Condition at end of fiscal year. *(See Tables 37-H and 37-1, Navigation: Arkansas River Basin; AR, OK, and KS, for status for individual items, navigation projects, lakes, and basin plan.)* Work continues on the Arkansas River project in this District including construction of the Montgomery Point Lock & Dam, a meander cutoff levee between the Arkansas and White Rivers, and land acquisition studies.

Installation of tow haulage equipment was completed at David D. Terry Lock and Dam (No. 6), Lock and Dam No. 5, Emmett Sanders Lock and Dam (No. 4), and Joe Hardin Lock and Dam (No. 3) in 1994, at Norrell Lock (Lock 1) and Lock No. 2 in 1997, and Murray Lock (No. 7) in 1998. Tow haulage was installed on Toad Suck Lock and Dam (No. 8), Ormond Lock and Dam (No. 9), Dardanelle Lock and Dam (No. 10), Ozark Lock and Dam (No. 11), and Trimble Lock and Dam (No. 13), in FY 99-FY00.

2. ARTHUR V. ORMOND LOCK & DAM (NO.9), AR

Location, existing project, local cooperation, and terminal facilities. *(See section 1.)*

Operations and results during fiscal year. Continued operation and maintenance. Rockefeller Lake (pool 9) has four developed parks that in FY03 experienced public visitation exceeding 0.61 million visitor-hours.

Condition at end of fiscal year. Construction began in April 1965 and the lock and dam was placed in operation in July 1969. Construction of Holla Bend closure structure (fish and wildlife mitigation) began in July 1986 and was completed in September 1987. Construction of a non-Federal hydropower project, under the authority provided by the Federal Energy Regulatory Commission, was completed and placed into operation in August 1993. Construction of a widened downstream entrance was completed in 1998. Installation of tow haulage equipment was complete in 1999.

3. DAVID D. TERRY LOCK AND DAM (NO. 6), AR

Location, existing project, local cooperation, and terminal facilities. *(See section 1.)*

Condition at end of fiscal year. Construction began in January 1965 and the lock and dam project was placed in operation in August 1968. Tow haulage equipment was added in June 1993. Currently, the project has two developed parks, which in FY 03 experienced public visitation exceeding 2.8 million visitor-hours.

4. EMMETT SANDERS LOCK AND DAM (NO. 4), AR

Location, existing project, local cooperation and terminal facilities. *(See section 1.)*

Operations and results during fiscal year. Continued operation and maintenance. Pool 4 has two developed parks, which in FY03 experienced public visitation exceeding 0.7 million visitor-hours.

Condition at end of fiscal year. Construction began in May 1964 and the lock and dam project was placed in operation in December 1968. Construction of a 40-foot wide, 9,600-foot long highway bridge crossing the lock and dam was completed in July 1995. The Corps of Engineers, as the Federal agency, has jurisdiction and custody of the dam (23 U.S.C. 320 [Public Law 2810]). The project was 100 percent funded by the Arkansas State Highway and Transportation Department. Tow haulage equipment was placed into operation in June 1993.

5. JAMES W. TRIMBLE LOCK AND DAM (NO. 13), AR

Location, existing project, local cooperation, and terminal facilities. *(See section 1.)*

Operations and results during fiscal year. Continued operation and maintenance. In FY03, the project's three developed parks experienced public visitation exceeding 0.9 million visitor-hours.

Condition at end of fiscal year Construction began in October 1965 and the lock and dam were placed in operation in April 1969. The bridge across the dam was completed in July 1968. Construction of a non-Federal hydropower facility at the project was completed in November 1988 under the authority provided by the Federal Energy Regulatory Commission. The contract to install tow haulage equipment was awarded in December 1998.

6. LOCK NO. 2 AND WILBUR D. MILLS (NO. 2), AR

Location, existing project, local cooperation, and terminal facilities. *(See section 1.)*

Operations and results during fiscal year. Operation and maintenance continued. Wilbur D. Mills has five developed parks, which in FY03 experienced public visitation exceeding 3.2 million visitor-hours.

Condition at end of fiscal year. Construction began in May 1963. The lock was placed in operation in March 1968. Emergency repairs to the scour protection features and tainter gates at the dam that resulted from a barge accident in December 1982 were completed in FY85. The barges that clogged the dam gates during the December 1982 flood showed that, with a certain set of circumstances (higher than normal head combined with the clogged gates resulted in high current velocity that caused both upstream and downstream scouring), the structure could fail. This condition exists primarily because the structure was constructed on piling and designed for all of the gates to operate in unison.

A model study by the Waterways Experiment Station determined the most feasible solution to this problem is to extend the stilling basin downstream. A contract to extend the stilling basin was awarded in June 1990 and completed in FY94. Project costs are estimated at $21.6 million. A contract was awarded in September 1995 to add tow haulage equipment at Lock No. 2. Construction of a non-Federal hydropower project, under the authority provided by the Federal Energy Regulatory Commission is complete and was placed into operation in December 1999.

7. JOE HARDIN LOCK AND DAM (NO. 3) AR

Location, existing project, local cooperation, and terminal facilities. *(See section 1.)*

Operations and results during fiscal year. Continued operation and maintenance. Pool 3 has three developed parks which in FY03 experienced public visitation exceeding 0.4 million visitor-hours.

Condition at end of fiscal year. Construction began in May 1963 and the lock and dam were placed in operation in December 1968. Tow haulage equipment was installed and operational in 1993.

8. LOCK AND DAM NO. 5, AR

Location, existing project, local cooperation and terminal facilities. *(See section 1.)*

Operation and results during fiscal year. Continued operation and maintenance. Pool 5 has two developed parks which in FY03 experienced public visitation exceeding 0.7 million visitor-hours.

Condition at end of fiscal year Construction began in November 1964 and the lock and dam were placed in operation in December 1968. Tow haulage equipment was installed in June 1993.

9. MURRAY LOCK AND DAM (NO. 7), AR

Location, existing project, local cooperation, and terminal facilities. *(See section 1.)*

Operations and results during fiscal year. Operation and maintenance continued. Murray has five developed parks, which in FY03 experienced public visitation exceeding 3.2 million visitor-hours. The Corps initiated design of a pedestrian-bicycle bridge that would be constructed across the lock and dam under the Support for Others program. The sponsor is Pulaski County, Arkansas.

Condition at end of fiscal year. Construction began in November 1964 and the lock and dam was placed in operation in October 1969. Construction of a non-Federal hydropower facility at the project was completed in May 1988 under the authority provided by the Federal Energy Regulatory Commission.

10. NORRELL LOCK AND DAM (NO. 1) AND ENTRANCE CHANNEL, AR

Location, existing project, local cooperation, and terminal facilities. *(See section 1.)*

Recommended modification. The White River Entrance Channel is the first reach in the MCKARNS project. This is the only reach in the navigation system where the minimum stage is controlled by the stages of the Mississippi River and not by a downstream dam. Water surface elevations on the Mississippi River have been declining for years due to changed hydraulic conditions and riverbed elevations, resulting in inadequate navigation depths in the White River Entrance Channel.

Construction of the Montgomery Point Lock and Dam would eliminate the navigation restrictions. The new lock and dam will include "bottom" operated gates and a lock chamber of 600 feet by 110 feet with miter gates. The navigation pass over the dam (gates down) will be approximately 77 percent of the time for present conditions and 64 percent of the time for future conditions.

Operations and results during fiscal year. Operation and maintenance continued. The project currently has one developed park which in FY03 experienced public visitation exceeding 00.5 million visitor-hours.

Condition at end of fiscal year. Construction began in May 1963, and the lock and dam were placed in operation in June 1967. A contract to add tow haulage equipment to the lock was completed in 1997.

11. TOAD SUCK FERRY LOCK AND DAM (NO. 8), AR

Location, existing project, local cooperation, and terminal facilities. *(See section 1.)*

Operations and results during fiscal year. Continued operation and maintenance. In FY03, the project's five developed parks experienced public visitation exceeding 0.9 million visitor-hours.

Condition at end of fiscal year. Construction began in July 1965 and the lock and dam was placed in operation in November 1969. The Conway water supply project was completed and transferred to the city for operation and maintenance in July 1983. Installation of tow haulage equipment was complete in 1999.

12. MAINTENANCE AND REPAIR FLEET AND MARINE TERMINALS, AR

Location, existing project, local cooperation, and terminal facilities. *(See section 1.)*

Operations and results during fiscal year. Operation and maintenance continued.

Condition at end of fiscal year. Construction of Pine Bluff Marine Terminal began March 1968 and was placed in operation in April 1969. Construction of the Dardanelle Marine Terminal began June 1968 and it was placed in operation in November 1969.

13. OTHER AUTHORIZED NAVIGATION PROJECTS

(See Table 37-C for other authorized navigation projects.)

14. NAVIGATION WORK UNDER SPECIAL AUTHORIZATION

Preauthorization studies under the small project continuing authorities program, navigation activities, Section 107, Public Law 86-645, as amended. Expenditures for Sec. 107 activities in FY03 totaled $221,821. Coordination account, $10,029; Russellville Harbor, Arkansas River, AR; $189,968; Ft. Chaffee Port, Ft Smith, AR $21,821.

Flood Control

15. BLUE MOUNTAIN LAKE, AR

Location. *(See Table 37-1: Arkansas River Basin, AR, OK, and KS: Lakes.)*

Existing project. Construction cost was approximately $5.1 million. For further information see pages 906 and 907 of the 1962 Annual Report.

Local cooperation. Section 2, Flood Control Act of 1938 applies.

Operations and results during fiscal year. Operation and maintenance of project continued. Flood damages prevented during FY03 are estimated at $75,100; cumulative benefits through September 30, 2003, are estimated at $30,528,300. The project's five developed parks experienced public visitation exceeding 1.6 million visitor-hours during FY03.

Condition at end of fiscal year. Project is complete except for additional recreational sanitary facilities. Construction of the project began in May 1940 and it was placed in operation in March 1947.

16. CLEARWATER LAKE, MO

Location. *(See Table 37-K: White River Basin, AR & MO: Lakes.)*

Existing project. Construction of the outlet works for the dam was initiated in May 1940 and completed in March 1942. Due to work stoppage during World War II, the earth embankment and uncontrolled spillway were not completed until December 1948. The spillway weir was completed in 1951. Cost of construction was approximately $9,715,000. For further information, see pages 897 and 898 of 1962 Annual Report.

Major rehabilitation. Construction of an upstream seepage berm, a grout curtain on the right abutments, a parapet wall along the dam, and widening of the spillway from 190 feet to 370 feet was completed in December 1988 at a cost of approximately $11,620,000.

Local cooperation. Section 2, Flood Control Act of 1938 applies.

Operations and results during fiscal year. Operation and maintenance continued. Flood damages prevented during FY03 are estimated at $39,600; cumulative benefits through September 2003 are estimated at $202,184,500. Project currently has 6 developed parks, which in FY03 experienced public visitation exceeding 4.1 million visitor-hours.

Condition at end of fiscal year. Project is complete except for improvements to the sanitary facilities in the recreation areas. Construction of the project began in June 1940 and was ready for beneficial use in March 1948. A new water control plan is being considered that better meets the needs of the interests in the basin. Objections by the Arkansas Game & Fish Commission during the review of the Draft Environmental Assessment have delayed progress on implementation of the proposed plan. In January 2003, a sinkhole developed in the upstream face of the dam. Investigations were conducted that indicate seepage through the bedrock is the likely causative mechanism for the sinkhole. A drilling and grouting project was awarded in the approximate amount of $2.1M. A major rehabilitation study was initiated in FY03 to develop a long-term solution for seepage, which is expected to lead to a new construction start in FY05.

17. DEQUEEN LAKE, AR

Location. On Rolling Fork River, RM 22.8, a tributary of the Little River, in Sevier County, about 4 miles northwest of DeQueen, AR.

Existing project. An earth-fill dam, 2,360 feet long, constructed to 160 feet above streambed. An uncontrolled spillway, 200 feet wide, is about 1,400 feet east of main embankment. Outlet works consist of a gated conduit, 12 feet in diameter.

The lake controls 169 square miles of drainage area and provides a total storage of 136,100 acre-feet (101,200 acre-feet for flood control storage, 25,500 acre-feet for conservation storage, and 9,400 acre-feet for sedimentation reserve). Federal cost of the project is estimated at $19,623,752.

Local cooperation. Section 2, Flood Control Act of 1938, and Section 301, Water Supply Act of 1958, as amended, apply.

Operations and results during fiscal year. Routine operation and maintenance continued. Flood damages prevented during FY03 are estimated at $50,400; cumulative benefits through September 2003 are estimated at $10,578,100. In FY03, the project's six developed parks experienced public visitation exceeding 1.4 million visitor-hours.

Condition at end of fiscal year. Construction began April 1966. Project was placed in useful operation in August 1977.

18. DIERKS LAKE, AR

Location. On Saline River, RM 56.6, a tributary of the Little River, about 5 miles northwest of Dierks, Howard County, AR.

Existing project. An earth-fill dam, 2,760 feet long, and about 153 feet above the streambed. An uncontrolled spillway 800 feet wide is in a saddle at the west end of the dam. Outlet works consisting of a gated 6- by 9-foot oblong conduit, one 24 -inch low-flow pipe, and one 30-inch water supply pipe are provided. The lake controls a drainage area of 114 square miles and provides for storage of 67,100 acre-feet for flood control and 29,700 acre-feet for water supply, conservation, and sedimentation reserve, a total of 96,800 acre-feet. The Federal cost of the project was $16,002,903.

Local cooperation. Section 2, Flood Control Act of 1938, and Water Supply Act of 1958, as amended, apply.

Operations and results during fiscal year. Continued operation and maintenance. Flood damages prevented during FY03 are estimated at $16,800; cumulative benefits through September 2003 are estimated at $6,252,900. Currently have three developed parks, which in FY03 experienced 1.2 million visitor-hours.

Condition at end of fiscal year. Construction began in June 1968. In May 1975, the embankment closure was completed and the project was placed in useful operation.

19. FOURCHE BAYOU BASIN, LITTLE ROCK, AR

Location. On Fourche, Rock and Grassy Flat Creeks in the vicinity of Little Rock, Pulaski County, AR.

Existing project. This flood control project, consisting of 11.6 miles of channel improvement with railroad and road bridge widening (estimated cost of $30.7 million), was turned over to the city of Little Rock for operation and maintenance. The project authorization included the acquisition of 1,750 acres of bottomlands (for flood storage and environmental preservation) with nature appreciation facilities; this work has yet to be accomplished. A Limited Reevaluation Report (scheduled to be complete in 2004) is for the ASA (CW) to decide if acquisition of the bottomlands should be budgeted.

Local cooperation. The city of Little Rock, the project sponsor, signed the local cooperation agreement in August 1987.

20. GILLHAM LAKE, AR

Location. Dam site is on the Cossatot River, RM 49.0, in Howard County, about 5 miles northeast of Gillham in Sevier County, AR.

Existing project. Federal cost of the project was $17,827,111.

Local cooperation. Section 2, Flood Control Act of 1938, and Section 301, Water Supply Act of 1958, as amended, apply. Tri-Lakes Water District furnished a resolution of intent to repay costs allocated to water supply storage.

Operations and results during fiscal year. Continued operation and maintenance. Flood damages prevented during FY03 are estimated at $96,500; total cumulative flood damages prevented are estimated at $14,384,700. In FY03, the project's four developed parks experienced public visitation exceeding 1.5 million visitor-hours.

Condition at end of fiscal year. Construction began in June 1968. The embankment closure was completed in May 1975, and the project was placed in useful operation.

21. LITTLE RIVER BASIN, AR

Location. Improvements are on the Little River and tributaries in Arkansas. More definite locations of individual items are shown in Table 37-J.

Existing project. A six-lake system for flood control and other purposes in the Little River Basin. The system consists of four lakes in Arkansas: Millwood on the main stem, Dierks on the Saline River, DeQueen on the Rolling Fork River, and Gillham on the Cossatot River; and two lakes in Oklahoma: Broken Bow on the Mountain Fork River and Pine Creek on the Little River. Under a District boundary change, effective in October 1980, the four projects in this system in Arkansas were

reassigned from the Tulsa District to the Little Rock District.

Local cooperation. Section 2, Flood Control Act of 1938, and Section 301, Water Supply Act of 1958, as amended, apply. Tri-Lakes Water District (DeQueen, Gillham, and Dierks) furnished a resolution of intent to repay costs allocated to water supply storage. The Southwest Arkansas Water District is currently repaying costs allocated to water supply storage at Millwood Lake.

Operations and results during fiscal year. Operation and maintenance of projects continued. See individual projects for details. Flood damages prevented by the Little River Basin reservoirs during FY03 are estimated at $163,900; cumulative benefits through September 2003, are estimated at $44,828,100.

Withdrawals for water supply purposes were approximately: Tri-Lakes Water District, AR, 1,301.87 acre-feet from Gillham Lake; Tri-Lakes Water District, AR, 351.83 acre-feet from Dierks Lake; Tri-Lakes Water District, AR, 490.16 acre-feet from DeQueen Lake, and Southwest Arkansas Water District, AR, 74,841.09 acre-feet from Millwood Lake.

Condition at end of fiscal year. Millwood, DeQueen, Gillham, and Dierks Lakes are complete and in operation.

22. MILLWOOD LAKE, AR

Location. On the Little River, RM 16.0, approximately 7 miles east of Ashdown, Little River County, AR, and about 2 miles northeast of Millwood, Little River County, AR.

Existing project. The Federal cost of the project was $46,087,382.

Local cooperation. Section 2, Flood Control Act of 1938 applies.

Operations and results during fiscal year. Routine operation and maintenance continued. Flood damages prevented during FY03 are estimated at $200; cumulative benefits through September 2003 are estimated at $13,612,400. Millwood Lake has 12 developed parks, which in FY03 experienced public visitation exceeding 4.0 million visitor-hours.

Condition at end of fiscal year. Construction began in September 1961 and the project was placed in full flood control operation in August 1966.

23. NIMROD LAKE, AR

Existing project. Estimated cost is $4,092,825. For further information see pages 908 and 909 of 1962 Annual Report.

Local cooperation. Section 2 of the 1938 Flood Control Act applies.

Operations and results during fiscal year. Operation and maintenance of project continued. Addition and improvement to existing recreation sanitary facilities continued. In FY03, seven parks experienced public visitation exceeding 1.5 million visitor-hours. During FY03, flood damages prevented are estimated at $970,400; cumulative benefits through September 2003 are estimated at $22,384,300.

Condition at end of fiscal year. Project is complete.

24. WHITE RIVER BASIN (LITTLE ROCK DISTRICT), AR & MO

Location. Improvements are on the White River and tributaries, Arkansas and Missouri. More definite location of individual items is shown in Table 37-K: White River Basin.

Existing project. A general comprehensive plan for flood control and other purposes in the White River Basin. The plan includes seven lakes; two are flood control only projects and five are multiple-purpose projects. Beaver, Table Rock, Bull Shoals, Norfork, Clearwater, Greers Ferry and Bell Foley lakes were selected and approved for construction by the Chief of Engineers, and individual reports on six of these seven lakes are presented on subsequent pages. The Bell Foley project, the remaining unbuilt authorized project, was reevaluated in FY 89; the project continues to have a favorable benefit-to-cost ratio since its formulation in 1968. The lakes in the plan are listed in Table 37-K: White River Basin.

Local cooperation. Section 2, Flood Control Act of 1938 applies, Water Supply Act of 1958, as amended, applies to Beaver, Greers Ferry, and Norfork projects.

Operations and results during fiscal year. Operation and maintenance of projects continued. Flood damages prevented by the White River Basin reservoirs during FY03 are estimated at $3,268,700; cumulative benefits through September 2003, are estimated at $593,055,200. Flood damages prevented by the White River Basin levees during FY03 are estimated at $1,496,500; cumulative benefits through September 2003, are estimated at $94,151,500.

Electric energy delivered to Southwestern Power Administration for marketing during FY03 totaled 2.8 billion kilowatt-hours.

FY03 water releases for fish hatcheries were: 28,959 acre-feet from Norfork Lake for Fish and Wildlife Service trout hatchery; 14,479 acre-feet from Table Rock Lake for Missouri Conservation Commission trout hatchery; and, 14,479 acre-feet from Greers Ferry Lake for U.S. Fish and Wildlife Service trout hatchery.

Withdrawals for water supply purposes were: Beaver Water District, AR, 47,064.01 acre-feet, and Carroll-Boone Water District, AR, 7,845.53 acre-feet, from Beaver Lake; Madison County Water District, AR, 3,678.55 acre-feet, and Benton-Washington Counties Water District, AR, 7,151.76 ac-ft, from Beaver Lake; Kings River Country Club, 00 ac-ft, from Table Rock Lake; Marion County Regional Water District, AR, 897.13 acre-feet from Bull Shoals Lake; Water and Sewer Improvement District No.3 of Mountain Home, AR, 3,480.43 acre-feet from Norfork Lake; and the city of Clinton, AR, 2,455.94 acre-feet; Higden., AR, 4,481.12 acre-feet; Red Apple Inn, AR, 64.68 acre-ft; Thunderbird Country Club, AR, 21.85 acre-ft, and, Tannenbaum, AR, 150.78 acre-ft from Greers Ferry Lake.

Condition at end of fiscal year. Beaver, Table Rock, Bull Shoals, Norfork, Clearwater, and Greers Ferry lakes are complete and in operation. Progress on these lakes is shown in individual reports. Water Valley and Lone Rock lakes have been deauthorized. A new water control plan was approved and implemented in December 1998. This plan was developed in close coordination with the basins various interests and was recommended as their preferred plan of operation.

25. INSPECTION OF COMPLETED FLOOD CONTROL PROJECTS

Approved regulations for operation and maintenance of flood control works, Part 208 of Title 33, Code of Federal Regulations, provide for periodic inspection of completed projects transferred to local interests for operation and maintenance. Inspections of local flood protection projects were made to determine extent of compliance with approved regulations for maintenance and operation of these projects. Responsible officials of improvement districts concerned were advised of inadequacies in maintenance and operation of local flood protection works under their jurisdiction where appropriate. Costs for FY03 were $236,841.

26. OTHER AUTHORIZED FLOOD CONTROL PROJECTS

(See Table 37-E: Other Authorized Flood Control Projects.)

27. FLOOD CONTROL WORK UNDER SPECIAL AUTHORIZATION

(1) Emergency bank protection, Section 14, 1946 Flood Control Act. FY03 costs, $338,423; Section 14, Coordination Account, $15,122; Route A @ Sinking Creek, Shannon County, Federal $53,715; Little Rock Slackwater Harbor, AR, $4,115; and Arkansas River @ I-430 Bridge, North Little Rock, AR, $182,259; Old Grand Glaise, Jackson County, AR, $18,208; US Highway 71 Bridge, Red River, $20,230; US Highway 164 Bridge, Little Piney Creek, $19,751; Batesville Wastewater Treatment, $25,023.

(2) Snagging and clearing, Section 208, 1954 Flood Control Act. Fiscal year costs: None..

(3) Flood control activities, Section 205, 1948 Flood Control Act. FY03 costs, $297,551: Section 205 Coordination Account, $15,064; White River, Batesville, AR, $1,865; Mill Creek, AR $95,632; Jam Up Creek, Mountain View, MO, $28,468; Johnson Creek & Tributaries, Y-City, AR, $12,025; Otter Creek & Tributaries, Shannon Hills, AR, $9,489; Town Branch Creek, Clinton, AR, $39,924; High School Branch, Neosho, MO, 15,233; Archey Fork Creek, Clinton, AR, $7,433; Cox Creek, Lavaca, AR, $7,167; Crooked Creek, Saline County, AR, $$8,635; Prairie Creek, Russellville, AR, $11,108; Hidden Valley, Needmore Branch, $45,508.

Multiple-Purpose Projects Including Power

28. BEAVER LAKE, AR

Location. *(See Table 37-K: White River Basin.)*

Existing project. Estimated cost is $50,797,000. For further information see 788 and 789 of 1966 Annual Report. *(For authorization see Table 37-B)*

Major rehabilitation. Since the dam was constructed there has been a seepage problem below Dike No. 1. Based on detailed investigation, it was determined that the limestone foundation under Dike 1 and 200 feet of the north end of the main dam embankment is the main problem. The plan of improvement was a concrete seepage cutoff in Dike 1 and the north end of the main dam. A $16.9-million contract to construct a concrete cutoff wall was awarded in June 1989; the notice to proceed was issued in October 1989. The contract period was estimated to be 760 days. However, the contractor ceased productive work due to inability to excavate rock and was been placed in default. An $18.8 reprocurement contract was awarded in April 1992. Work began in May 1992 and all work was completed in Nov 1995. Project cost is estimated at $26,588,000 million.

The Beaver Dam Safety Assurance study was completed with FY 97 expenditures of $1,359.61.

Water Quality Enhancement. Congress directed the Corps to implement best management practices (BMP's) in the Beaver Lake watershed and monitor the effects of these practices on water quality. A study was completed and a project report was approved in July 1989. The BMP's and water quality monitoring were concurrently implemented over a 5-year period, which began in May 1991 with a project completion date of July 1997.

The BMP's were implemented under the terms of a memorandum of agreement between the Corps and the Natural Resources Conservation Service (NRCS), formerly the Soil Conservation Service, with the assistance of the Agricultural Stabilization and Conservation Service. The water quality monitoring was implemented under terms of a local cost-sharing agreement with the Arkansas Soil and Water Conservation Commission. Water quality monitoring was performed in consultation with the Environmental Protection Agency by a Corps administered contract. The water quality-monitoring contract was awarded on January 29, 1992. Water quality sampling began in May 1992 and was completed on July 1, 1996. BMP implementation was completed August 31,1995. Cost in FY98 was $67,897.93 Federal, and $1,434.58 non-Federal. Total project cost was $6,878,775.15

Environmental Infrastructure Assistance. The Water Resources Development Act of 1992 authorized the Corps of Engineers to provide design and construction assistance to appropriate non-Federal interests for a water transmission line from the northern part of Beaver Lake, Arkansas, into Benton and Washington Counties. This project is part of a $40 million project, which includes a water intake, treatment and storage facilities, and transmission lines. The project sponsor is the Benton/Washington County Water Association, and the primary source of funding is the Rural Economic and Community Development Service (formerly the Farmers Home Administration, U.S. Department of Agriculture). The Little Rock District and the project sponsor executed a Memorandum of Agreement in June 1997. The Little Rock District then transferred $3 million to the sponsor for construction of a segment of the water transmission line.

Local cooperation. Section 2 of the 1938 Flood Control Act, and the 1958 Water Supply Act, as amended, apply.

Operations and results during fiscal year. Continued operation and maintenance. Flood damages prevented during FY03 are estimated at $246,900; cumulative benefits are estimated at $42,428,300. During the year 105,798,100 kilowatt-hours of electrical energy were delivered to the Southwestern Power Administration for marketing. The project has eleven developed parks, which in FY03 experienced public visitation exceeding 23.0 million visitor-hours. An agreement to provide 21,972.14 acre-feet of storage at no charge to the Arkansas Game and Fish Commission for fish production facilities was sent to HQ for approval in July 2000.

Condition at end of fiscal year. Project is complete. Alterations to existing parks to enhance fee collections, improve efficiency, and reduce the maintenance effort or rehabilitate the 26-year old park operation through operation and maintenance and SRUF funds, as appropriate. Construction of the project began in October 1959 and was placed in operation for flood control in December 1963, hydroelectric power generation with both units in May 1965, and water supply in January 1966. Work on a dam seepage problem is complete.

29. BULL SHOALS LAKE, AR

Location. *(See table 37-K: White River Basin, AR & MO.)*

Existing project. Cost with eight generating units was $88,858,711. For further information see pages 725 and 726 of 1965 Annual Report. *(For authorization see table 37-B.)*

Local cooperation. Section 2, Flood Control Act of 1938 applies.

Operations and results during fiscal year. Continued operation and maintenance. Flood damages prevented during FY03 are estimated at $1,360,900; total cumulative flood damages prevented are estimated at $158,540,900. During the year, more than 419,962,000 kilowatt-hours of electrical energy were delivered to Southwestern Power Administration for marketing. The project has eighteen developed parks, which in FY03 experienced public visitation exceeding 24.5 million visitor-hours.

Condition at end of fiscal year. Project is complete. Alterations to existing parks are needed to enhance fee collections, to improve efficiency, to reduce maintenance effort or to rehabilitate the 37-year-old park facilities through operations and maintenance or SRUF funds, as appropriate. Low dissolved oxygen readings in the downstream area of Bull Shoals Dam in October 1990 have resulted in ongoing studies to be undertaken to minimize harmful effects on the trout fishing of the White River.

Unguaranteed short-term solutions to the problem, consisting of limiting generation, will sustain the existing fishery, but long-term guaranteed changes will require congressional authorization. Construction of the project began in April 1946 and was ready for beneficial flood control use in June 1951 and generation of electrical energy in September 1952. Units 1 through 8 were placed in operation September 1952, December 1952, June 1953, January 1962, February 1962, August 1963, and September 1963, respectively.

Major rehabilitation (Powerhouse). A major rehabilitation study was initiated in October 1995. The study was to investigate a solution to the environmentally induced reliability problem (low dissolved oxygen) of these units. Potential solutions include new auto-venting turbines, a down stream weir, turbine venting, or forced-air. Following preliminary study results, the turbines were modified in 1997 to increase downstream aeration. The study has been suspended while the effects of these modifications are evaluated.

30. DARDANELLE LOCK AND DAM (NO. 10), AR

Location. *(See Table 37-H: Arkansas River Basin; AR, OK, and KS: Navigation.)*

Existing project. Project is a unit of MCKARNS. Dam is 2,683 feet long and 68 feet high. It has a spillway with 20 tainter gates 50 feet long and 39 feet high. Navigation lock is 110 by 600 feet with a lift of 54 feet. Powerhouse originally contained four 31,000-kilowatt generators. Lake has a storage capacity of 486,200 acre-feet. Estimated cost was $84,270,124.

Local cooperation. *(See section 1.)*

Operations and results during fiscal year. Continued operation and maintenance. Power generation continued. During FY03, about 548,568,000 kilowatt-hours of electrical energy were delivered to the Southwestern Power Administration for marketing. In FY03, the project's thirteen developed parks experienced public visitation exceeding 6.3 million visitor-hours.

Condition at end of fiscal year. Project is complete. Construction began June 1957. Power units were placed on line in April, May, and September 1965, and January 1966. The lock became operable in December 1969. The Visitors Center and resident office were completed in May 1985. The contract to install tow haulage equipment was awarded in December 1998.

Major rehabilitation. Major Rehabilitation of the power plant was completed in August 2000. Turbines were replaced and generators were rewound to increase plant capacity by 13 percent. Cost of the Major Rehabilitation was $28.8 million.

31. GREERS FERRY LAKE, AR

Location.*(See Table 37-K: White River, AR & MO.)*

Existing project. Estimated cost is $55,125,000. For further information see page 740 of 1964 Annual Report.

Local cooperation. Section 2, 1938 Flood Control Act and 1988 Water Supply Act, as amended, apply.

Operations and results during fiscal year. Continued operation and maintenance. Flood damages prevented during FY03 are estimated at $544,100; total cumulative flood damages prevented are estimated at $31,638,200. In FY03, 124,485,000 kilowatt-hours of electrical energy were delivered to the Southwestern Power Administration for marketing. The project has seventeen developed parks, which in FY03 experienced public visitation exceeding 33.9 million visitor-hours. The project's operational management plan provides means by which the natural resources, including water quality, aesthetic value, forestry, fish and wildlife are managed and protected for future generations. An all-volunteer environmental program (annual cleanup) has been most successful and serves as a model for the Nation. During the past 27 years the program has won more than 26 national awards.

Condition at end of fiscal year. Project is complete. Construction of the project began in June 1957 and was ready for beneficial flood control use in January 1962. Power units 1 and 2 were operable in March and May 1964, and water supply was operable in April 1971. The Visitors Center was completed in June 1983 at a cost of $813,000.

32. NORFORK LAKE, AR

Location. *(See Table 37-K: White River Basin, AR & MO.)*

Existing project. The total estimated cost is $70,701,629, including highway bridge construction. This does not include an estimate for the addition of power units 3 and 4, which were authorized, but never built. For further information see page 896 of 1962 Annual Report.

Local cooperation. Section 2, Flood Control Act of 1938 and Water Supply Act of 1958, as amended, applies.

Operations and results during fiscal year. Continued operation and maintenance. Flood damages prevented during FY03 are estimated at $475,200; total cumulative flood damages prevented through September 2003, are estimated at $51,571,300. During the year, more than 115,702,000 kilowatt-hours of electrical energy were delivered to the Southwestern Power Administration for marketing. The project's 18 developed parks experienced public visitation exceeding 18.2 million visitor-hours during FY03.

Condition at end of fiscal year. Construction of project began in October 1940, ready for beneficial flood control use in June 1943, and for generation of electrical energy with one unit in June 1944. Second unit was added in February 1950. Water supply was added as a purpose in December 1969. Construction of two highway bridges over Norfork Lake to replace ferries was completed in November 1982. The bridges were transferred to the Arkansas Highway and Transportation Department for operation and maintenance in July 1984.

33. OZARK-JETA TAYLOR LOCK AND DAM (NO. 12), AR

Location. *(See Table 37-H: Arkansas River Basin, AR, OK, and KS: Navigation.)*

Existing project. Project is a unit of MCKARNS. The dam is 2,480 feet long and 58 feet above streambed; spillway has 15 tainter gates, each 50 feet long and 46 feet high. Navigation lock is 110 by 600 feet with a lift of 34 feet. Powerhouse contains five 20,000 kilowatt generators. Lake has a storage capacity of 148,400 acre-feet. In addition, one foot of power pondage is provided in Pool 13 between elevations 391.0 and 392.0. Cost was $85,629,412. *(For authorization see table 37-B.)*

Local cooperation. *(See section 1.)*

Operations and results during fiscal year. Continued operation and maintenance. Delivered 279,743,000 kilowatt-hours of electrical energy to Southwestern Power Administration for marketing. Ozark Lake has 10 developed parks, which in FY03 experienced public visitation exceeding 1.3 -million visitor-hours.

Condition at end of fiscal year. Construction began in December 1964. Project is complete. Lock and dam was placed in operation in November 1969. Power units were placed on line as follows: unit 1, November 1972; unit 2, August 1973; unit 3, October 1973; unit 4, December 1973; and unit 5, May 1974.

A major rehabilitation study was initiated in October 1996. The power plant has experienced numerous mechanical problems and major repair requirements since its construction. The study describes the condition of the power plant and reviews alternative solutions. The Rehabilitation Study Report was submitted in March 1999. Little Rock received Construction General funding in FY03 to start construction on the Major Rehabilitation Project.

34. TABLE ROCK LAKE, MO

Location. *(See Table 37-K: White River Basin, AR & MO.)*

Existing project. Cost was $119,491.90. For further information see page 893 of 1962 Annual Report. *(For authorization see table 37-B.)*

Dam Safety (Assurance). Table Rock Dam, about eight miles upstream from Branson, Mo, does not have adequate capacity and can safely pass only 65 percent of the Probably Maximum Flood. Studies indicate the PMF would overtop the dam by more than five feet and would breach the earthen embankment portion of the dam, causing catastrophic losses in downstream areas including Branson. The project includes construction of a dam, auxiliary gated spillway, bridge over the spillway, relocation of recreational facilities destroyed by the project, and major rehabilitation of the existing spillway. The total estimated project cost is $73.4 million.

Local cooperation. Section 2 of the 1938 Flood Control Act applies.

Operations and results during fiscal year. Continued operation and maintenance. Flood damages prevented during FY03 are estimated at $602,000; total cumulative flood damages prevented are estimated at $106,692,000. During the year, about 297,799,000 kilowatt-hours of electrical energy were delivered to the Southwestern Power Administration for marketing. The District and the Waterways Experiment Station are investigating the possibilities of improving the quality of Table Rock releases with a hypolimnetic oxygenation system. Table Rock Lake has fifteen developed parks, which in FY03 experienced public visitation exceeding 18.1 million visitor-hours. This project's operational management plan provides means by which the natural resources, including forestry, fish and wildlife, are managed and protected for future generations.

Condition at end of fiscal year. Project is complete except for construction of the auxiliary spillway. Construction of project began in October 1954. The project was ready for beneficial flood control use in November 1958, and for generation of electrical energy with units

1 and 2 in May 1959. Units 3 and 4 were added in April and June 1961.

General Investigations

35. ARKANSAS RIVER NAVIGATION STUDY, AR AND OK

The study area includes the entire McClellan-Kerr Arkansas River Navigation System in Arkansas and Oklahoma. The feasibility study is being conducted in two phases. Phase I is investigating flow management to improve the overall economic benefits for navigation on the system by reducing the impacts of high flows from the upper reaches of the Arkansas River. Phase II is investigating deepening the navigation channel up to twelve feet over the entire length and widening the Verdigris River in Oklahoma. The estimated cost of phase I is $4,000,000 and the estimated cost of phase II is $3,420,000. In Aug. 2003 a draft feasibility report and E.I.S. on phase I was completed. Implementation of the recommended plan of the phase I report is within Southwestern Division's authority. Work on feasibility report and E.I.S. for phase II continued during FY 03.

36. SURVEYS

Expenditures for surveys in FY03 totaled $1,896,644.

(1) Navigation studies, FY03 Arkansas River Navigation Study, Ft. Smith, AR, $1,353,926.

(2) Flood damage prevention studies, FY03 expenditures, 55,543: May Branch, Ft. Smith, AR, Feasibility Study, FY03, Federal funds expenditures were $55,543.

(3) Ecosystem Restoration Reconnaissance Studies, FY03 expenditures, $310,027: Southwest AR, $14,050; White River Minimum Flow Study, AR, $250,574; Springfield, MO, $45,403.

(4) Miscellaneous activities. FY03 expenditures, $37,238: Special investigations, $17,853; Review of FERC Licenses, $6,092; Interagency Water Resource Development, $10,503.

(5) Coordination with Other Agencies and Non-Federal Interests, FY03 expenditures, $139,910; Total PAS for FY03 expenditures, $137,576; PAS Expenditures include; Little Red River, AR Water Supply, $42,233; Hurricane Lake, $85,651.

37. COLLECTION AND STUDY OF BASIC DATA

Total expenditures for Collection and Study of Basic Data in FY03 were $227,117.

(1) Flood Plain Management Services (FPMS): Expenditures for FPMS activities in FY03 totaled $25,065. Technical Services, $82,336; SS-Ozark, MO, $74,641; and Branson, MO, $44,777.

The authority for the Flood Plain Management Services program is Section 206 of the 1960 Flood Control Act, PL 86-645, as amended. Under the authority of Section 321 of the Water Resources Development Act of 1990, PL 101-640, technical services and planning assistance are (1) provided to states and local governments without charge and (2) offered to Federal agencies and private persons on a cost recovery basis. Through these technical services and planning guidance, the program encourages comprehensive flood plain management planning at all levels to reduce the potential for losses to life and property from floods.

Federal and non-Federal agencies and the private sector are assisted with planning and development information for flood hazard areas. This assistance is in the form of local flood plain regulations, Federal Insurance Program requirements, and Executive Order 11988 guidelines. Such assistance may include factual flood information (available or determined) and interpretation of flood frequencies, extent of flooding, floodwater velocity, duration of flooding and floodway limits.

(2) Hydrologic Data Collection: During FY03, 180 stations were operated; 71 cooperatively with USGS, 74 cooperatively with the NWS, and 35 by the Corps.

38. PRECONSTRUCTION ENGINEERING & DESIGN (PED)

Total PED expenditures in FY03 were $236,841.

(1) Local Protection: Total Local Protection expenditures for FY03 were $136,819; This includes FY03 expenditures for North Little Rock, AR, Dark Hollow $130,508; and Arkansas River Levees $6,311.

(2) Reservoirs: FY03 expenditures for Pine Mountain Lake, AR, were $100,022.

39. WHITE RIVER MINIMUM FLOWS, AR

The Water Resources Development Act of 1999 (WRDA 99), Section 374, and WRDA 00, Section 304, modifies the operation of the White River lakes to include specific amounts of project storage for the tail water trout fisheries; before this, water management decisions affecting lake levels and downstream flows were based primarily on flood control and hydropower needs. The act directs the Corps to reallocate the following amounts of storage: Beaver Lake, 1.5 feet; Table Rock Lake, 2 feet; Bull Shoals Lake, 5 feet; Norfork Lake, 3.5 feet; and Greers Ferry Lake, 3 feet. The stored water will be used to make releases during periods when hydropower is not being generated. These minimum flows are intended to sustain the trout fishery. These changes cannot be carried out until this study determines that they are technically sound, environmentally acceptable, and economically justified. The Corps reprogrammed $100,000 of operations and maintenance funding to initiate the study effort in FY00. The Corps used these funds to conduct public involvement activities including several public workshops and agency meetings to notify interested parties of the proposed study and receive their comments. Conducted AFB in November 2003, waiting for HQUSACE guidance memorandum. We are continuing the reallocation study effort including an Environmental Impact Study of the proposed plans.

40. MAY BRANCH, FORT SMITH, AR

May Branch, a tributary of the Arkansas River, frequently floods a portion of Fort Smith. A Feasibility Cost Sharing Agreement between the Corps and the City of Fort Smith was signed on 13 November 1998 to determine the measures and cost of a flood reduction project. The $1.5 million, 50-50 cost-shared study is scheduled to be completed in 2004.

41. NORTH LITTLE ROCK (DARK HOLLOW), AR

The proposed project is a flood tunnel project including replacement of the existing tunnel under Redwood Street. Section 576 of the Water Resources Development Act of 1999 directed the Corps to review the plans and determine if the project is economically justified, technically sound, and environmentally acceptable and if so, construct the project. The design cost-sharing agreement was executed with the City of North Little Rock on 30
May 2000. The Limited Reevaluation Study was initiated 26 June 2000. Currently studying 12' tunnel design and construction technique. Upon completion of the Limited Reevaluation Study and pending report approval, plans and specifications for the project will be initiated.

42. SPRINGFIELD, MISSOURI

A $100,000 urban flood control and ecosystem restoration reconnaissance study of the Jordan Creek watershed was approved 31 Jan 2003. A project management plan was developed for a $3,000,000 feasibility study. The feasibility agreement with the City of Springfield, the sponsor, is expected to be signed in April 2004.

43. SOUTHWEST ARKANSAS STUDY

The study area includes parts or all of four counties in Southwest Arkansas in the Red River and Little River basins. Four Corps lakes (Millwood, Dierks, DeQueen, and Gillham) provide flood control and are the primary drinking water supplies for the region. Construction of the four projects resulted in the loss of 25,000 acres of bottomland wildlife habitat. About 9,000 acres of wetlands were lost due to reservoir operations. There is a significant opportunity to reallocate storage to increase flood reduction benefits and to restore fish and wildlife habitat. Water releases from the four lakes could aid navigation on the Red River, which has been extended to Shreveport/Bossier City. Important economic factors are agriculture, poultry, and livestock operations. Accelerated runoff, sedimentation, and possible water quality problems need to be addressed. Water supply storage could be used to make releases, especially out of Dierks and Gillham lakes, for kayaking with a resulting growth in recreational businesses. The watershed study would evaluate flooding, irrigation, restoration of fish and wildlife habitat, water quality, recreation and water releases for navigation. The Reconnaissance study will identify the federal interest and non-federal sponsors willing to participate in feasibility-level studies in their respective areas of concern.

44. PINE MOUNTAIN LAKE, AR

The project was authorized in the Flood Control Act of 1965, for a dam site at mile 35.7 on Lee Creek 12 miles north of Van Buren, Arkansas, in Crawford County. Existing authorization provides for construction of a lake for flood control, water supply, recreation and fish and wildlife enhancement. The lake would control runoff from 168 square miles with a capacity of 261,000 acre-feet.

Initial reconnaissance-level studies were completed that indicated a continued federal interest and a willing local sponsor. The FY 2004 funds are being used to initiate General Reevaluations under the Preconstruction Engineering and Design (PED) phase. The PED estimate

includes updating previous PED work including additional planning, design and EIS activities, and scoping for design effort.

The River Valley Regional Water District, the local sponsor, is expressing strong support and is willing to cost share during construction.

Construction General

45. MONTGOMERY POINT LOCK AND DAM, AR

MPLD is being constructed one-half mile upstream from the Mississippi River, in the White River Entrance Channel (WREC), the first reach in the McClellan-Kerr Arkansas River Navigation system. Construction of MPLD will allow control of the water level in the entrance channel, which will maintain the reliability of the navigation system during periods of low water. Placement of structural concrete began in July 2000 and continues. Through January 2004 the contractor has placed approximately 241,000 cubic yards of concrete. The only major concrete placements remaining are in monoliths R-24 and L-1. The contractor has completed the rewatering of the cofferdam and started removing the cells on 24 Feb 04. As of 23 March 04, seven cells had been removed. Mechanical and electrical work is continuing in the control tower. The contractor is also installing the elevator in the control tower. Other major work that remains is final dredging of the channel, completing revetment 2.OR and the closure of the diversion channel. Construction is approximately 93% complete and is scheduled to be complete in Aug 04. The dedication ceremony is scheduled for 16 July 04.

46. BEAVER TAILWATER RESTORATION, BEAVER LAKE, AR

Location: The project area is located immediately below Beaver Dam along the White River in Carroll County, Arkansas.

Existing Project. The proposed modification con sists of restoring 2 miles of channel and banks of the upper White River damaged by high flows from releases in Beaver Lake. The modification consists of constructing and placing in the river channel, 60 in-stream habitat structures, three log crib retaining walls, and one stone weir deflection structure. The project cost was $120,000 and was cost-shared 75% Federal and 25% with the local sponsor, the Arkansas Game and Fish Commission (AGFC), or $90,000 and $30,000 respectively. AGFC provided their contribution of $11,800 in cash and $18,200 in work-in-kind services that include boulders and logs for the in-stream habitat structures, cedar trees and logs for the retaining walls, and boulders for the stone weir. Contract award was November 14, 2000. construction was completed February 27,2001, and the project was officially transferred to AGFC on March 20, 2001.

47. ARKANSAS/WHITE CUTOFF CONTAINMENT STRUCTURE, AR

The Arkansas/White Cutoff Containment Structure is located between the Arkansas and White River in Arkansas County, Arkansas. The structure is comprised of approximately 17,300 feet of containment levee, a controlled overflow section, and one headcut structure, known as the Melinda Headcut Structure. After completion of the Arkansas River McClellan-Kerr Navigation Project, numerous hydraulic events occurred in the area resulting in significant scour through a series of old river lakes. A study was initiated in FY 1998 to determine the best viable alternatives to the comprehensive cutoff problem in the area. Interim repairs of the Melinda Headcut Structure were required in FY 2000 at a cost of $400,000. The AE completed the first phase of the initial feasibility study, existing conditions. The study was reviewed by Waterways Experiment Station (WES) in FY 2001. The District is continuing the study with cooperation from several environmental resource agencies. During FY03, agency and public scoping meetings were held and alternatives for a long-term solution were developed. Hydraulic modeling for existing conditions and alternatives began. Because of erosion during high water in 2002, a $1.7M construction project was awarded in FY03 to make repairs in Jim Smith Lake. The project was developed in conjunction with the environmental resource agencies to assure an environmentally acceptable solution, using bioengineering techniques.

48. GREERS FERRY LAKE WATER LINE

Subject to HQ's approval, a study will be initiated to determine the feasibility of constructing water intake facilities on Greers Ferry Lake, Arkansas, for the Community Water System. The Community Water System (CWS) is a major water supply user for central Arkansas and is currently paying for 8,284 acre-feet of storage in Greers Ferry Lake. Their desire is for the Corps to pro-

vide funds to help pay for construction of the water intake structure. This project consists of constructing a water intake structure and appurtenant works to relieve the long-term reliance on the rapidly diminishing ground water supply.

Section 117, PL 106-554, directs the Corps to "…construct intake facilities for the benefit of Lonoke and White Counties, Arkansas". HDR Engineering Inc. was awarded a task order on a contract out of Tulsa District for work requested to review the initial designs provided by Community Water System, conduct engineering feasibility analysis of the site, and prepare a report detailing possible future involvement by the Little Rock District. The draft report was completed in August 2002. The final report was completed in November 2002. Copies of the final report were sent to HQ in May 2003. Although the final report does indicate some Federal interest (i.e. the intake structure would be located on Federal lands adjacent to the Greers Ferry reservoir), this project does not meet Corps priorities for funding. No further work is expected from Little Rock District.

49. OZARK LOCK AND DAM, JETA TAYLOR POWERHOUSE MAJOR REHABILITATION, AR

The project is located on the Arkansas River at Ozark, Arkansas. The Ozark powerhouse was constructed in 1972-74. The five 20 MW slant-axis turbines have experienced numerous failures and require repair and replacement to maintain hydropower generation. This project consists of redesigning and replacing the turbines as well as rehabilitation of the speed increasing gearboxes, rehabilitation of the powerhouse cranes, and replacement and rehabilitation of supporting systems and equipment. Although the turbines are being replaced with state of the art turbines, there will be no increase in rating capacity. Activities in FY03 included completion of design effort and advertisement of the crane and turbine rehabilitation contracts.

CAP

Section 14

50. LITTLE ROCK SLACKWATER HARBOR

The purpose of this project was to eliminate streambank erosion that was threatening the Little Rock Port facilities and navigation on the McClellan-Kerr Arkansas River Navigation System. Approximately 34,000 tons of quarry run stone was placed on the bank to eliminate the streambank erosion.

The Little Rock Port provides service for many facilities in and around the industrial park. To accommodate the growth in the industrial area, the Little Rock Port Authority is in the process of planning and constructing for future improvements to the ports infrastructure. The Port Authority has begun construction for Phase I and Phase II of a rail system to connect to an existing railroad approximately 3,600 feet northwest of the Slackwater Harbor. The new railroad under construction runs parallel to the Slackwater harbor and continues approximately 2,500 feet west toward the Arkansas River. The proposed north loop (Phase III) of the rail system, which is parallel to the streambank of the Arkansas River, could not have continued due to the streambank erosion that was encroaching on the Little Rock Port Industrial Park.

51. ROUTE A @ SINKING CREEK, SHANNON COUNTY, MO

The Missouri Department of Transportation (MoDot) requested the Little Rock District to investigate an existing erosion problem with bridge #A-4565 @ Sinking Creek located in Shannon County Missouri. The project is classified under the Continuing Authorities Program and is authorized under Section 14 of the 1946 Flood Control Act (Public Law 80-858), as amended. MoDOT will serve as the non-Federal sponsor. Funds in the amount of $40K were allocated in January 2002 to begin the study. The project delivery team was established when FY03 funds were made available in May 2003. The PDT conducted a site visit and team meeting with the non-Federal sponsor in July 2003. Survey work was completed in late fall of 2003. H&H has begun the H&H report.

52. LITTLE PINEY CREEK, HIGHWAY 164

Hwy 164 Bridge over the Little Piney near Hagarville is the location of sever erosion on the banks of the Little Piney and are in fact compromising the structural integrity of Arkansas Highway Transportation Department (AHTD) Highway 164 bridge. The Little Rock District has been requested to study the 1500 ft. eroding section of the streambank upstream and downstream of the Highway 164 Bridge on the Little Piney Creek. Continued erosion will compromise the integrity of the bridge by washing out the right abutment. If the right abutment is compromised, the AHTD will close the

bridge resulting in adverse impacts to the local economy due to detoured traffic.

53. HIGHWAY 71 @ RED RIVER, OGDEN, AR

The Arkansas Highway Transportation Department (AHTD) requested the Little Rock District to investigate an existing erosion problem with the Highway 71 Bridge near Ogden, Arkansas. The Highway 71 Bridge is in danger of having its support piers compromised, thus making the bridge unsafe to cross. A scour hole has formed on the right descending bank approximately 200 feet upstream of the Highway 71 Bridge and has advanced to within approximately 100 feet of the bridge piers. The Project Delivery Team will investigate the existing conditions of the U.S. Highway 71 Bridge and right ascending bank of the Red River to determine if there is a solution to the current conditions. The PDT will conduct an investigation and summarize the findings in a technical report. The project is classified under the Continuing Authorities Program and is authorized under Section 14 of the 1946 Flood Control Act (Public Law 80-858), as amended. AHTD will serve as the non-Federal sponsor. Funds in the amount of $50K were allocated in May 2003 to begin the study. Additional funds, $15K, were requested in March 2004 to complete the study. The study is approximately 3/4 through the PDA phase. The PDA phase is expected to be completed in FY04.

54. BATESVILLE WASTEWATER TREATMENT PLANT, BATESVILLE, AR

Batesville Water Utilities requested the Little Rock District to conduct a streambank study on the North bank of the White River (approximately river mile 299.5 to rm 298.5). The treatment plant is experiencing erosion issues during high flow near their aeration ponds. The project is classified under the Continuing Authorities Program and is authorized under Section 14 of the 1946 Flood Control Act (Public Law 80-858), as amended. Batesville Water Utilities will serve as the non-Federal sponsor. Funds were received in May 03 to initiate the project study. Survey work has been completed. Hydrology and Hydraulics draft report for the proposed project has been completed.

Section 107

55. SLACK WATER HARBOR, RUSSELLVILLE, AR

Location. The project area is located along the McClellan-Kerr Navigation System approximately 75 miles northwest of Little Rock. The local sponsor is the River Valley Regional Inter-model Facility Authority.

Existing Project. The recommended plan in the Detailed Project Report, dated May 2001, consisted of a slack water harbor located on the left descending bank of the Arkansas River at navigation mile 202.5 downstream of Dardanelle Dam in Pope County. The report was approved in November 2001. The local sponsor is the River Valley Regional Inter-model Facility Authority. HQ/s formally transmitted the approval memo along with further instructions limiting project funds and items included in the PCA on October 4, 2002. The plans and specifications were initiated in October 2002 and were put on hold in September 2003 at the 50% design. The sponsor requested the plans and specs be put on hold until the EIS for their intermodal facility was completed which is expected to be about 2 years

The total cost to implement the harbor was estimated at $4,884,000, and the benefit-to-cost ratio was 1.2 to 1. The total federal share was estimated at $3,351,000 and the total non-federal share was estimated at $1,533000. However, due to the $2500,000 federal limit on this project, the total non-federal share will be $2,384,000, which includes local service facilities and berthing areas estimated to cost $610,100 and LERRD's estimated to cost $551,000..

56. FT. CHAFFEE PORT

The Fort Chaffee Redevelopment Authority (FCRA) requested the Little Rock District to study the viability of a port on the McClellan-Kerr Navigation System near Barling, Arkansas on the eastern boundary of the city of Ft. Smith. Federal funds in the amount of $50,000 were allocated to complete a preliminary study (Milestone Report) to determine federal interest to proceed in the feasibility phase. If the report is scheduled for completion in April 2004 and if it determines federal interest, funds will be requested immediately afterwards.

Section 205

57. JAM UP CREEK, MOUNTAIN VIEW, MO

A feasibility study was started in February 2001 for Jam Up Creek in Mountain View, Missouri. The study is estimated to take 2 years and cost $190,000. Jam Up Creek floods the airport, a portion of the business district (including city buildings) and several residences. Likely solutions to the flooding problem are channel and

bridge widening. Current cost sharing requirements for the project would be 35 percent non-Federal and 65 percent Federal.

58. ARCHEY CREEK, CLINTON, AR

Clinton, Arkansas is located approximately 75 miles north of Little Rock, Arkansas. The community has concerns about Archey Fork Creek flooding after severe rains. Frequent flooding damage occurs to homes, businesses, and other public facilities along Archey Fork Creek. Should a large event occur, 117 structures in the downtown area would experience up to 12 feet of flooding. The cities municipal airport is approximately 250 feet from the eroding bank at several locations. Also, a 1600-feet section of stream bank below the State Highway Bridge 65 is eroding. A city owned 8-inch main waterline with is within 30 feet of the eroding west bank. A local telephone company fiber optic line is within 5 feet to 20 feet from being adversely impacted by the erosion problem. The possibility exists for prolonged damages to the integrity of the cities municipal airport, waterline and a telephone line serving northern Van Buren County.

59. HIGH SCHOOL BRANCH, NEOSHO, MO

High School Branch is located in Neosho, Missouri, approximately 17 miles south of Joplin, Missouri. The drainage basin upstream of the flood-damaged area is approximately 4 to 5 square miles. Frequent flooding damages occur to homes, businesses, and public facilities along High School Branch. The Milestone Report is scheduled for competion in April 2004. The proposed plan will most likely include channel modifications and culvert replacement.

60. TOWN BRANCH, CLINTON, AR

Clinton, Arkansas is located approximately 75 miles north of Little Rock, Arkansas. The community has concerns about Town Branch Creek flooding after severe rains. Significant logging activity in the headwaters has caused smaller rain events to produce higher flood events. The stream channel appears to be in good condition. No economically justified solution was identified and the study was terminated.

61. PRAIRIE CREEK, RUSSELLVILLE, AR

The city of Russellville, Arkansas has requested Little Rock District to reduce the flooding on Prairie Creek flowing through the city and emptying into the Arkansas River by a pump station that is operated by the Little Rock District. Flooding has occurred to homes, businesses, and public facilities along the channel. Likely alternative plans will include channel modifications, acquisition and/or relocation of properties, and recreation area development in the channel corridor while improving wildlife habitat.

62. MILL CREEK, FORT SMITH, AR

Location. In Southwest Fort Smith, Sebastian County, AR.

Existing project. The project was constructed under Section 205 of the Continuing Authority Program. The project included improvements on 3.9 miles of the Mill Creek channel and modifications on three bridges. Project construction was completed in November 1992. A design deficiency correction to stabilize the bank at Jenny Lind Road was constructed along the flood control channel. It was completed in April 2003.

Local cooperation. The city of Fort Smith, the local sponsor, signed the local cooperation agreement in November 1988. The city assumed project operation and maintenance on 17 June 1993. A supplemental PCA was signed 5 August 2002. The project cost was $9.2 million with a non_Federl share of $4.2 million.

63. WHITE RIVER, BATESVILLE, AR

Location. On the White River, within the city of Batesville, Independence County, AR.

Existing project. Construction of a levee and floodwall to protect the industrial area was done under Section 205 of the 1948 Flood Control Act. The project includes 4,855 feet of levee/floodwall, 9 stoplog structures, 6 drainage structures, a stoplog storage area, 3 sewer line control gates, and a two-gage automated warning system. The levee/floodwall construction contract was awarded in July 1995 and completed in Dec 1996. The levee/floodwall was transferred to the city of Batesville for operation and maintenance March 14, 1997. However, in Aug. 1999, it was determined that erosion to the bank and at two drainage structure culverts required a design deficiency correction. Construction on the erosion correction started in May 2001 and was completed in September 2001. Estimated cost of the project is $3,896,105 with a 25 percent cost share provided by the city of Batesville, Arkansas, the sponsor. The operation and maintenance manual is scheduled to be given to the sponsor in 2004.

64. HIDDEN VALLEY, NEEDMORE BRANCH, GREENE CO, MO

The FY03 Omnibus Bill earmarked $500,000 to initiate a Section 205 project for the Hidden Valley subdivision in Greene County. The feasibility study was started in May 2003 to consider channelization and detention ponds to reduce flooding.

Section 206

65. HENRY GREY HURRICANE LAKE WILDLIFE MANAGEMENT AREA, AR

The proposed project will increase waterfowl habitat in the Hurricane Lake Wildlife Management Area by increasing and ensuring timely placement of water during the migration period. The recommended action includes adding two pumps. This should result in a net increase of approximately 1300 acres of waterfowl habitat in addition to the 7000 – 8000 acres that are currently flooded from existing conditions, gates, and levees. Existing and additional gates and levees will be used to maintain the water during the critical migratory period from October to March. We are completing an Environmental Restoration Report at this time, to determine the most environmentally effective alternative.

66. BULL SHOALS AQUATIC MACROPHYTE RESTORATION, AR

The Arkansas Game and Fish Commission (AGFC) has requested that Little Rock District investigate the feasibility of planting aquatic plants (macrophytes) within the conservation pool of Bull Shoals Lake to improve fish habitat. The project is classified under the Continuing Authorities Program and is authorized as Aquatic Ecosystem Restoration under Section 206 of the Water Resources Development Act of 1996 (PL 104-303). The AGFC is the non-federal sponsor and will be responsible for 35 percent of the total project cost. The entire 35% will be done as work-in-kind during the construction phase of the project. On 11 October 2002, Col (P) Crear signed a memo approving construction of the project. On 16 December 2002, a Project Cooperation Agreement (PCA) was signed between the AGFC and the Little Rock District. Project implementation began in May 2003. The project is scheduled for implementation through September 2004.

67. GALLA CREEK, AR

Galla Creek Green Tree Reservoir is located 0.5 miles north of the Arkansas River and 3.3 miles Southeast of Pottsville Plop County, Arkansas.

The recommended plan consists of modifying and restoring 6286 linear feet of channel upstream, 3763 linear feet of channel downstream, lowering an existing steel spillway structure 2 feet, removing an existing concrete pad as an option, adding four stop-logs to an existing structure, and re-establishing approximately 400 acres of bottomland hardwoods. The channel will be a 20-foot bottom with a 4H to 1V side slope on the upstream side of the structure. The downstream side will be a 10-foot bottom with a 5 to 1 side slope. The spoil will be discarded on either side of the channel not to interfere with the current drainage. The spillway will be lowered 2 feet to allow better drainage of the wildlife management area and four additional weir openings with stop logs will be added. Reforestation of 400 acres is needed to get a jump-start on certain preferred wildlife tree species, preferably Overcup Oaks and Willows. The project would restore the Galla Creek Green Tree Reservoir, consisting of 400 acres of bottomland hardwoods.

The estimated cost to implement the project is $1,404,900 and would be cost-shared 65% Federal and 35% AG&FC, or $913,200 and $491,700 respectively. AG&FC's share of the project will consist of the following: $225,800 in lands, $144,000 in work-in-kind consisting of providing material and labor for the revegetation of 400 acres, and $121,900 in cash. Operation and maintenance (O&M) of the proposed project would be the responsibility of AG&FC and would primarily consist of operating, inspecting and maintaining the drainage structure and is estimated at $1,000 per year.

68. ROCKAWAY BEACH AQUATIC HABITAT RESTORATION, MO

The project improves the quality of water around in Lake Taneycomo near the City of Rockaway Beach, Missouri. The project included replacing one culvert under the causeway to a City Park with three opening flow-paths upstream and downstream of the causeway; installing two submersible aerators upstream of the causeway and four floating aerators downstream of the causeway. Construction was completed in 2003

69. FOURCHE CREEK AT HINDMAN PARK

The City of Little Rock, the Audubon Society and the Arkansas Game and Fish Commission have requested that the Little Rock District Corps of Engineers initiate a Section 206 ecosystem restoration study on Fourche Creek in the area of Hindman Park in southwest Little Rock. The stream in this area is experiencing bank erosion problems probably as a result of altered hydrology caused by development in the upstream watershed. In FY03, $10,000 was allocated for development of a Preliminary Restoration Plan (PRP). The sponsors along with the Corps are currently working on defining the scope of the project since much of the upstream watershed is in private ownership. The PRP will be completed in summer 2004. The Arkansas Highway Department and Federal Highway Administration have also expressed an interest in purchasing mitigation property adjacent to Fourche Creek in this area for added restoration and enhancement.

70. SHIREY BAY-RAINEY BRAKE WILDLIFE MANAGEMENT AREA (WMA)

The WMA is a 10,500-acre tract set between the Strawberry and Black Rivers in Lawrence County, Arkansas. The Arkansas Game and Fish Commission requested an ecosystem restoration study to address the impacts to wintering waterfowl associated with riverbank erosion and water level management within a green tree reservoir. Bank erosion is threatening a portion of the levee system. In FY03, $10,000 was allocated for development of a PRP which will be completed in summer 2004.

Section 1135

71. COLLINS CREEK, AR

The project consists of a pipeline from the Greers Ferry Dam to Collins Creek to provide continuous cold water at a rate of 1.5 cfs to enhance the trout habitat in the creek. The sponsor, Arkansas Game & Fish Commission (AG&FC), will construct bank stabilization, k-dams, and a trail along the creek to complete the project and serve as their work-in-kind portion of the project. Pipeline construction was started in August 2001 and was completed in the summer of 2002. Trout are swimming upstream and spawning. In-stream work by AGFC continues.

72. BULL SHOALS NURSERY POND, AR

Diamond City, Arkansas, and the Arkansas Game and Fish Commission requested that Little Rock District investigate the feasibility of constructing a nursery pond within the flood pool of Bull Shoals Lake. AGFC is the sponsor and will be responsible for 25 percent of costs. The project is classified under the Continuing Authorities Program and is authorized under Section 1135(b) of the Water Resources Development Act of 1986. The Environmental Assessment (EA) was finalized in November 2002 and Colonel Butler signed a Finding of No Significant Impact (FONSI) on 20 December 2002. The project was given construction approval by Southwestern Division in April 2003; a Project Cooperation Agreement between the Arkansas Game and Fish Commission and the Little Rock District was signed on 28 April 2003. The project is currently going through the construction contract process.

73. TAYLOR BAY, AR

The Taylor Bay area is located 60 miles northeast of Little Rock, Arkansas, in the White River floodplain between the cities of Newport and Augusta. It is a 9-mile long meandering slough that turns into a backwater bay along the left descending bank of the White River at river mile 201.8 near Augusta, Arkansas. The Village Creek, White River and Mayberry Levee is 20 miles long and protects 51 square miles of the northern part of the watershed. Years ago Taylor Bay supported a healthy fishery, but the fishery has shown a steady decline throughout the 1980's and 90's. The primary cause for the decline has been identified as sedimentation due to change in surrounding land use from forest to agriculture and operation of a pumping station that removed water from the farm land upstream of the levee. The pumping station is no longer in operation. The Arkansas Game and Fish Commission is the sponsor and has identified the need for aquatic resource restoration in the form of restoring the hydrology and correcting chronic lake level declines, siltation, and sedimentation as a Section 1135 project. The Little Rock District has studied the problems at Taylor Bay as recently as 1992. During FY02, $10,000 was allocated for the development of a Preliminary Restoration Plan (PRP). The PRP was completed in FY03 and the project is currently waiting for funds to begin the detailed Project Report Phase.

74. BULL SHOALS TAILWATER RESTORATION

This project consists of trout habitat structures built with boulder clusters and bank stabilization habitat structures using log cribs, tree revetments, riprap, and root wads at selected locations along the White River

downstream from Bull Shoals Dam. The three restoration areas total approximately 5.1 river miles or about 240 acres. While the actual restoration work will be limited to approximately 5.1 miles of the White River, positive habitat impacts are expected throughout the river above and below the restoration areas. These improvements are needed in order to restore Rainbow and Brown Trout habitat that has been gradually degraded and lost due to project releases. The estimated habitat output gains are an increase of 192 habitat units for Brown Trout and 156 habitat units for Rainbow Trout. The estimated construction cost for the project is $1.6M. The estimated annual operations and maintenance (OMRR&R) is $25,000. The Arkansas Game and Fish Commission (AGFC) is the non-Federal sponsor.

75. ROCK CREEK AT BOYLE PARK

The City of Little Rock, the Arkansas Audubon Society and the Arkansas Game and Fish Commission have requested the Little Rock District Corps of Engineers to initiate a Section 1135 ecosystem restoration study on Rock Creek, focusing in on the Boyle Park area. The area of concern on Rock Creek is located in and surrounding the vicinity of Boyle Park. The park is an approximately 250-acre tract of largely unimproved wood and donated to the city by Dr. John F. Boyle in 1929. The area is a mix of residential and commercial activity. It was determined by the project delivery team that the study area should encompass the area between Kanis Park and 36th street in Little Rock, AR., roughly 2 miles. Over the course of the community's expansion, including the development of a rock levee in the Boyle Park vicinity by the Little Rock District Corps

76. NORFORK TAILWATER RESTORATION

The Arkansas Game and Fish Commission requested an ecosystem restoration study to address the impacts to the tailwater trout fishery below Norfork dam. The timing, duration and magnitude of hydropower releases from Norfork Dam has caused increased stream bank erosion and degraded the fish habitat components. This project will improve aquatic habitat, improve water quality (reduce sedimentation), and increase productivity of the biological community. These improvements are needed in order to restore Rainbow and Brown Trout habitat that has been degraded and lost due to project releases. In FY03, $10,000 was allocated for development of a PRP, which will be completed in spring 2004.

77. ARKANSAS RIVER ENVIRONMENTAL RESTORATION

This project would consist of restoring approximately 200 acres of waterfowl habitat by placing water control structures at either two or three locations along the backwaters of the Arkansas River between Russellville and Fort Smith, Arkansas. The Little Rock District Corps of Engineers made an initial site visit in August 2003, and is currently preparing the Preliminary Restoration Plan. The Preliminary Restoration Plan is submitted to Southwestern Division to determine whether or not there is a Federal interest in pursuing construction of the project. While the actual restoration work will be limited to the areas between Russellville and Fort Smith along the Arkansas River, positive habitat impacts are expected throughout the river above and below the restoration areas. These improvements are needed in order to restore waterfowl habitat that has been degraded and lost due to changes of the flooding regime caused by construction of the navigation channel in the river. A project cost estimate has not been developed at this point in the Preliminary Restoration Plan, but it is expected to be in the order of $2 million based upon similar projects.

Table 37-A

Cost And Financial Statement

See Section in Text	Project	Funding	FY00	FY01	FY02	FY03	Total Cost to Sept. 30, 2003
4.	McClellan—Kerr Arkansas River Navigation Locks & Dams, AR	New Work Approp.	6,320,000	2,766,000	3,571,000	4,480,000	624,587,000
		Cost	5,622,282	3,875,394	3,670,185	4,518,000	624,429,000
		Maint. Approp.	19,810,093	20,780,690	20,755,593	20,466,180	—
		Cost	20,013,159	19,439,805	22,107,290	20,330,124	—
		New Work Contrib.	—	485,332	500,000	269,863	7,568,164
		Cost	—	38,299	279,461	116,578	6,747,307
2.	Montgomery Point Lock & Dam	New Work Approp.	25,294,000	32,433,000	35,309,000	26,985,000	219,770,000
		Cost	28,383,939	37,062,095	35,367,213	26,781,000	219,338,000
See Section 16 of FY 2002 Annual Report	Black River Poplar Bluff, MO	New Work Approp.	5,400	0	0	0	504,000
		Cost	6,459	3,237	0	0	503,999
		New work Contrib.	0	0	0	0	56,688
		Cost	636	0	0	0	56,688
22.	Blue Mountain Lake, AR	New Work Approp.	—	—	0	0	5,069,974
		Cost	—	—	0	0	5,069,974
		Maint. Approp.	1,199,783	1,144,336	1,376,464	1,119,311	—
		Cost	1,189,722	1,123,449	1,407,094	1,119,717	—
See Section 18 of FY 1998 Annual Report	Cato Springs Branch, Fayetteville, AR	New Work Approp.	—	0	0	0	235,700
		Cost	—	0	0	0	235,700
		New Work Contrib.	0	0	0	-1	36,899
		Cost	35	0	0	0	36,899
23.	Clearwater Lake, MO	New Work Approp.	—	—	—	0	10,406,300
		Cost	—	—	—	0	10,406,300
		Maint. Approp.	2,812,770	4,568,853	3,827,756	3,524,755	—
		Cost	2,825,092	4,090,295	4,338,626	3,517,378	—
		Major Rehab. Approp.	—	—	—	0	12,087,910
		Cost	—	—	—	0	12,087,910
24.	DeQueen Lake Little River Basin, AR	New Work Approp.	—	—	—	0	19,629,753
		Cost	—	—	—	0	19,629,752
		Maint. Approp.	1,130,434	1,439,745	1,001,022	949,173	—
		Cost	1,130,987	1,193,340	1,247,818	949,173	—

Table 37-A (Continued)

Cost And Financial Statement

See Section in Text	Project	Funding	FY00	FY01	FY02	FY03	Total Cost to Sept. 30, 2003
25.	Dierks Lake, Little River Basin, AR	New Work Approp.	—	—	—	—	16,002,903
		New Work Cost	—	—	—	—	16,002,781
		Maint. Approp.	1,108,654	1,337,964	982,188	885,507	—
		Maint. Cost	1,108,814	1,087,517	1,232,962	885,507	—
See Section 22 of FY 1998 Annual Report	Dry Jordon Creek, Harrison, AR	New Work Approp.	—	0	0	0	157,500
		New Work Cost	—	0	0	0	157,500
		New Work Contrib.	—	—	—	—	—
		New Work Cost	—	—	—	—	—
26.	Fourche Bayou Basin, Little Rock, AR	New Work Approp.	25,000	300,000	1,000	158,000	21,389,000
		New Work Cost	9,498	50,425	139,544	184,004	21,281,633
		New Work Contrib.	—	—		0	1,731,678
		New Work Cost	—	—		330	1,718,098
27.	Gillham Lake, Little River Basin, AR	New Work Approp.	—	—	—	0	17,827,111
		New Work Cost	—	—	—	0	17,827,111
		Maint. Approp.	941,336	1,066,166	949,290	874,604	—
		Maint. Cost	940,757	978,545	1,037,599	874,604	—
29.	Mill Creek, Fort Smith, AR	New Work Approp.	—	64,000	11,600	66,400	5,042,001
		New Work Cost	—	20,802	32,646	95,632	4,913,499
		New Work Contrib.	—	0	0	60,600	359,861
		New Work Cost	—	0	0	32,190	331,451
30.	Millwood Lake, Little River Basin, AR	New Work Approp.	—	—	—	0	46,087,382
		New Work Cost	—	—	—	0	46,087,382
		Maint. Approp.	2,019,659	3,078,700	1,705,487	1,484,805	—
		Maint. Cost	2,019,168	2,259,687	2,525,299	1,485,447	—
31.	Nimrod Lake, AR	New Work Approp.	—	—	—	0	4,092,826
		New Work Cost	—	—	—	0	4,092,826
		Maint. Approp.	1,696,196	1,432,537	1,346,443	1,337,891	—
		Maint. Cost	1,683,745	1,339,776	1,451,443	1,338,353	—

Table 37-A (Continued)

Cost And Financial Statement

See Section in Text	Project	Funding	FY00	FY01	FY02	FY03	Total Cost to Sept. 30, 2003
33.	White River,	New Work					
	Batesville,	Approp.	80,000	266,000	-4,600	0	3,089,409
	AR	Cost	87,593	241,419	44,908	1,865	3,088,498
		New Work					
		Contrib.	—	48,200	-39,542	0	217,903
		Cost	—	74,977	-20,956	619	217,511
34.	White River,	New Work					
	Jacksonport,	Approp.	—	0	0	0	92,691
	AR	Cost	—	0	0	0	92,691
		New Work					
		Contrib.	—	0	0	0	233,027
		Cost	—	0	0	0	233,027
38.	Beaver Lake,	New Work					
	AR	Approp.	—	—	—	0	46,183,033
		Cost	—	—	—	0	46,183,033
		Maint.					
		Approp.	4,374,228	4,712,346	5,499,048	3,887,012	—
		Cost	4,376,412	4,484,414	4,629,157	4,307,633	—
		New Work					
		Contrib.		406,500	-376,946	750	30,304
		Cost		14,026	15,528	750	30,304
		Major Rehab.					
		Approp.	—	0	0	0	33,570,853
		Cost	—	0	0	0	33,570,853
38.	Beaver Lake,	New Work					
	Water Quality	Approp.		0		0	4,304,000
		Cost		0		0	4,282,000
		New Work					
		Contrib.	—	0		0	557,406
		Cost	—	0		0	540,123
38.	Beaver Lake,	New Work					
	Infrastructure	Approp.		—		0	3,000,000
		Cost		—	43	0	3,000,000
		New Work					
		Contrib.	—	—	—	—	—
		Cost	—	—	—	—	—
39.	Bull Shoals	New Work					
	Lake, AR	Approp.	—	—	—	0	88,857,611
		Cost	—	—	—	0	88,857,611
		Maint.					
		Approp.	5,212,919	6,240,895	5,831,709	4,410,800	—
		Cost	5,235,347	5,570,819	5,036,382	4,629,666	—
40.	Dardanelle Lock	New Work					
	& Dam (No. 10)	Approp.	—	—	—	0	84,270,124
	AR	Cost	—	—	—	0	84,261,240
		Maint.					
		Approp.	4,895,415	6,104,802	5,374,116	6,716,132	—
		Cost	4,910,219	4,696,786	6,800,665	4,896,692	—

Table 37-A (Continued)

Cost And Financial Statement

See Section in Text	Project	Funding	FY00	FY01	FY02	FY03	Total Cost to Sept. 30, 2003
40. (cont.)	Dardanelle Lock & Dam (No. 10), AR	Major Rehab. Approp.	3,523,000	1,400,000	400,000	0	29,111,000
		Cost	3,127,132	1,731,861	698,173	27,413	29,105,934
41.	Greers Ferry Lake, AR	New Work Approp.	—	—	252,000	-130,000	48,987,512
		Cost	—	—	91,541	17,796	48,974,849
		Maint. Approp.	5,222,125	5,991,422	5,308,774	5,969,721	—
		Cost	5,280,626	5,685,683	5,616,012	4,918,076	—
42.	Norfork Lake, AR	New Work Approp.	—	—	—	0	74,578,929
		Cost	—	—	—	0	74,578,929
		Maint. Approp.	3,983,896	4,179,760	5,220,161	3,130,922	—
		Cost	3,979,112	3,410,106	3,755,634	4,221,638	—
43.	Ozark—Jeta Taylor Lock & Dam (No. 12), AR	New Work Approp.	—	—	—	0	85,629,412
		Cost	—	—	—	0	85,629,412
		New Work Contrib.	—	581,500	563,500	1,590,992	5,242,992
		Cost	—	949,157	1,163,887	798,851	3,006,153
		Major Rehab Approp.				208,000	208,000
		Cost				120,741	120,741
		Maint. Approp.	4,337,900	4,101,982	3,415,854	3,518,007	—
		Cost	4,349,453	3,396,494	4,141,823	3,524,262	—
44.	Table Rock Lake, MO	New Work Approp.	7,654,000	21,661,000	20,610,000	10,054,000	132,086,875
		Cost	7,294,854	22,423,849	20,736,261	10,106,289	132,059,913
		New Work Contrib.	0	1,753,000	1,490,000	-130,649	3,168,351
		Cost	0	137,496	1,166,746	1,365,417	2,692,754
		Maint. Approp.	5,553,013	5,742,356	9,804,021	7,220,376	—
		Cost	5,553,096	5,739,383	7,882,085	8,241,418	—
45.	Nimrod Waterfowl Levee	New Work Approp.	—	0	0	0	72,200
		Cost	—	0	0	0	72,200
		New Work Contrib.	0	0	0	0	24,100
		Cost	57	0	0	0	24,100
47.	Morgan Point Bendway Closure Structure, Arkansas River	New Work Approp.	-128,000	0	0	0	2,782,000
		Cost	121,911	3,610	21,057	9,466	2,776,278
		New Work Contrib.	—	0	0	0	270,700
		Cost	—	0	0	0	270,700

1. For more details on project funds, see text for individual projects.
2. Includes total project cost, including study cost.

Table 37-B Authorizing Legislation

Date of Authorizing Act	Project and Work Authorized	Documents
	ARKANSAS RIVER BASIN, AR, OK, & KS (See Section 1 of text)	
June 28, 1938	Approved General comprehensive plan: Mannford Reservoir, OK Oologah Lake, OK Canton Lake, OK Tenkiller Ferry Lake, OK Wister Lake, OK Blue Mountain Lake, AR Nimrod Lake, AR	Flood Control Com. Doc. 1, 75th Cong., 1st sess.
August 18, 1941	Modified comprehensive plan to include reservoirs in Grand (Neosho) River Basin, OK, and Mo, and in Verdigris River Basin: Markham Ferry Reservoir, OK Fort Gibson Lake, OK Pensacola Reservoir Lake O' The Cherokees, OK Fall River Lake, KS Elk City Lake, KS Toronto Lake, KS Neodosha Lake, KS	H. Doc. 107 and 440, 76th Con., 1st sess.
July 24, 1946	Authorized Chief of Engineers to provide in the Canton Lake 69,000 acre-feet of irrigation storage, subject to certain conditions.	H. Doc 758, 79th Cong. 2d sess.
July 24, 1946	Approved multiple-purpose plan: Oologah Lake, OK Markham Ferry Reservoir, OK Fort Gibson Lake, OK Blackburn Reservoir, OK Mannford Reservoir, OK Taft Reservoir, OK Bank stabilization Dardanelle Lock and Dam, AR Eufaula Lake, OK Navigation locks and dams Ozark Lock and Dam, AR Short Mountain Lock and Dam, OK Webbers Falls Lock and Dam, OK Tenkiller Ferry Lake, OK	H. Doc 758, 79th Cong. 2d sess.
June 30, 1948	Modified Arkansas River navigation comprehensive plan to include bank protection works at Bradens Bend, OK.	H. Doc 758, 79th Cong., 2d sess.

Table 37-B (Continued) Authorizing Legislation

Date of Authorizing Act	Project and Work Authorized	Documents
May 17, 1950	Modified comprehensive plan authorized in 1938 Flood Control Act and multiple-purpose plan authorized in River and Harbor Act of 1946 to provide for substituting Key-stone Lake Mannford, Blackburn and Taft Reservoirs.	
July 14, 1960	Authorized incorporation of River and Harbor and Flood Control plans into a single plan of development and made all pervious authorizations applicable to combined plan of development.	
November 17, 1986	Fourche Bayou Basin, Little Rock, AR (See Section 26 of text.)	Water Resources Development Act of 1986, P.L. 99-662, Sec. 401.
June 10, 1948	Mill Creek, Fort Smith, AR (See Section 30 of text.)	Section 205, P.L. 80-858. Author-ized by Asst. Sec. of the Army (CW), 10/14/88.
	RED RIVER BELOW DENISON DAM INCLUDING LITTLE RIVER BASIN, OK AND AR (See Section 26 of text)	
July 24, 1946	Construct Boswell, Hugo, and Millwood Lakes, and Bank Stabilization	H. Doc. 602, 79th Cong., 2d sess.
July 3, 1958	Modified Millwood: Construct Pine Creek, Lukfata, Bro-ken Bow, DeQueen, Gillham, Dierks Lakes	H. Doc. 170, 85th Cong., 1st sess.
July 24, 1946	Emergency streambank erosion protection, Red River, Lit-tle River Co., AR	Section 14, PL 79-526
	WHITE RIVER BASIN (LITTLE ROCK DISTRICT) (See Section 34 of text)	
June 28, 1938	Approved comprehensive plan for White River Basin: Lone Rock Lake, AR, Norfork Lake, AR, Clearwater Lake, MO, Water Valley Lake, AR, Bell Foley Lake, AR, Greers Ferry Lake, AR, and White River emergency.	Flood Control Com. Doc 1, 75th Cong., 1st sess.
August 18, 1941	Modified comprehensive plan to include Bull Shoals Lake, AR, and MO, Table Rock Lake, MO, and AR, and Norfork Lake, AR, and MO (power).	H. Doc. 917, 76th Cong., 3d sess. H. Doc. 290, 77th Cong., 1st sess.
September 3, 1954	Authorized power in Greers Ferry Reservoir and added Beaver Lake to the plan.	H. Doc. 499, 83d Cong., 2d sess.
October 23, 1962	Authorizing clearing and straightening of channel for Vil-lage Creek, Jackson and Lawrence Counties.	H. Doc 352, 87th Cong., 2d sess.

Table 37-B (Continued) Authorizing Legislation

Date of Authorizing Act	Project and Work Authorized	Documents
March 1, 1974	Authorizing highway bridge construction across Norfork Lake	Flood Control Com. Doc. 1, 75th Cong., 1st sess.
May 11, 1962	Environmental restoration of wetlands and fish and wildlife resources in the White River Basin. AR and MO. (See Section 33 of text.)	Senate Report 1O2-344; Energy & Water Development Appropriations Act, 1993, PL 102-377
October 22, 1976	White River Fish Hatchery, Arkansas provides for trout production facilities downstream from Beaver Dam.	Water Resources Development Act of 1976, P.L. 94-587, Sec. 105.
June 30, 1948	White River, Batesville, AR. (See Section 35 of text.)	Section 205, P.L. 80-858, construction be approved by ASA (CW).

TABLE 37-C Other Authorized Navigation Projects

Project	For Last Full Report See Annual Report For	Federal Cost thru Sept. 30, 2003	
		Construction	Operation and Maintenance
Arkansas River, Little Rock Slackwater Harbor, AR	1988	$743,984	—
Black River, AR and MO [1]	1950	80,000	$930,324
Current River, AR and MO [1]	1964	17,000[3]	132,178
Upper White River, AR [2, 3]	1952	83,197	1,788,374
White River, AR (above Peach Orchard Bluff)[1, 3]	1950	—	785,666
White River, Jacksonport, AR[4]	1984	43,110	—

1. Channel adequate for existing commerce; completion not contemplated .
2. Federal operation and maintenance terminated June 30, 1952, due to lack of commerce. Facilities at Locks and Dams Nos. 1,2, and 3 disposed of in accordance with authority in Public Law 996, 84th Congress.
3. Completed.
4. Responsibility for maintenance of project downstream from Newport, AR; transferred to Memphis District in FY 62.

TABLE 37-E Other Authorized Flood Control Projects

Project	Status	For Last Full Report See Annual Report For	Cost to Sept. 30, 2003 Construction	Cost to Sept. 30, 2003 Operation and Maintenance
Black River, Butler County Road 607, MO	Completed	1985	44,500	—
Black River, Poplar Bluff, MO, to Knobel, AR	Completed	1958	84,315	—
Butler County Drainage District 3, MO	Completed	1983	42,172	—
Carden's Bottom Drainage District No. 2, Arkansas River, AR	Completed	1951	919,955	—
Cato Springs, Fayetteville, AR	Completed.	1996	426,000	—
Clarksville, AR	Completed	1962	271,717	—
Conway County Drainage and Levee District District No. 1, Arkansas River, AR	Completed	1959	187,440	—
Conway County Levee Districts Nos. 1, 2, and 8, Arkansas River, AR	Completed	1952	1,018,840	—
Conway County Levee District No. 6, Arkansas River, AR	Completed	1952	390,952	—
Crawford County Levee District, AR	Completed	1983	53,506	—
Crawford County Levee District, Arkansas River, AR	Completed	1954	2,001,820	—
Crooked Creek, Harrison, AR	Completed	1995	1,245,000	—
Curia Creek Drainage District, Independence County, AR	Completed	1983	117,898	—
East Poplar Bluff and Poplar Bluff, MO	Completed	1958	304,699	—
Faulkner County Levee District No. 1, Arkansas River, AR	Completed	1941	99,511	—
Fort Smith, Arkansas River, AR	Completed	1951	1,077,546	—
From North Little Rock to Gillett, AR (above Plum Bayou)	Completed	1954	845,300	—
Fourche Creek, Little Rock, AR[1]	Cancelled	1973	22,890	—
Jackson County Levee District 2 White River, AR	Completed	1986	131,699	—
Little Massard Creek, Fort Smith, AR	Completed	1983	198,096	—
Little Red River District 1, AR	Completed	1988	28,968	—
Little Red River, White County Road Bridge, Judsonia, AR	Completed	1983	63,355	—
Little Rock Levee, AR, East End Fourche Bayou, AR	Completed	1975	1,901,899	—
McLean Bottom Levee District No. 3, Arkansas River, AR	Completed	1950	422,549	—
Near Dardanelle, Arkansas River, AR	Completed	1953	198,069	—
Newport, White River, AR	Completed	1941	314,276	—
North Little Rock, Arkansas River, AR	Completed	1958	512,001	—
Otter Creek and Tributaries Shannon Hills, AR	Completed	1987	162,204	—
Petit Jean River, AR	Completed	1966	84,350	—
Petit Jean River, AR	Completed	1991	88,379	—
Pine Mountain Lake, AR3	PED	1985	1,432,331	—
Point Remove Levee and Drainage District, Conway County, AR	Completed	1983	86,943	—
Red River, I-30, Little River Co., AR	Completed	1992	119,897	—
Red River, Hwy. 31, Little River Co., AR	Completed	1992	144,828	—
Roland Drainage District, Arkansas River, AR	Completed	1950	269,907	—
Rolling Fork River, Sevier County, AR	Completed	1983	64,500	—

TABLE 37-E (Cont.) Other Authorized Flood Control Projects

Project	Status	For Last Full Report See Annual Report For	Cost to Sept. 30, 2003 Construction	Cost to Sept. 30, 2003 Operation and Maintenance
Skaggs Ferry, Black River, AR	Completed	1941	81,023	—
South Bank, Arkansas River (Head Fourche Island to Pennington Bayou), AR	Completed	1964	1,404,852	—
South Bank, Arkansas River, Little Rock to Pine Bluff, AR, Tucker Lakes	Completed	1961	409,115	—
Swan Creek Bank Stab., Taney County, MO	Completed	1986	76,800	—
Van Buren, Arkansas River, AR	Completed	1952	438,222	—
Village Creek, White River, and Mayberry Levee Districts, AR[2]	Completed	1972	1,567,156	—
West of Morrilton, Arkansas River, AR	Completed	1962	1,269,959	—
White River, at Hwy 14, ¼ mile east of Oil Trough, AR	Completed	1981	214,308	—
White River Bank Stab., Batesville, AR	Completed	1986	101,100	—
White River, Batesville Water TowerSec 14, AR	Completed	1999	473,000	—
White River, Jacksonport, AR[3]	Completed	1987	293,567	—
White River, Newport, AR	Completed	1989	93,929	—
White River, St. Paul, AR	Completed	1990	22,400	—

1. Construction of project cancelled because local interests failed to provide right-of-way for construction and maintenance.
2. See H Doc 577.87th Cong for description.
3. Design deficiency correction to be completed 30 December 1996.

TABLE 37-G Deauthorized Projects

Project	For Last Full Report See Annual Report For	Authority	Date Deauthorized	Funds Expended Federal Funds	Funds Expended Contributed Funds
Crooked Creek Lake & Levee, AR	1969		1990	—	—
Lone Rock, Buffalo River, AR	1959		1977	$130,653	—
Prosperity Lake, MO	—		1989	864,000	—
Water Valley, Eleven Point River, AR & MO	1959		1977	414,011	—
Bell Foley Lake, White River, Arkansas	1975		2002	1,432,116	
Village Creek, Jackson and Lawrence Counties, AR	1977		2002	510,217	

TABLE **ARKANSAS RIVER BASIN; AR, OK, AND KS:**
(See Section 1 of

Featur	Miles Up-strea fro Mout	Miles Nearest	Lock Dimensi (feet	Lif (feet	Elevatio Upper (feet MSL	Depth on Sill Uppe (feet	Depth on Sill Lowe (feet	Character Foundatio	Kind Da	Type Constru tion	Yea Opened Naviga tion	Total Estimate Cos
LITTLE ROCK												
Norrell Lock and No.		8 east of Post,	110 by	30	142	16	15				196	$22,472,00
Entrance		First 10.3 of	—	—	—	—	—				—	$
Lock No.		6 east of Post,	110 by	20 28	162	18	14				196	$
Wilbur D. Mills (No.		3 southeast AR Post,	—	—	—	—	—				196	—
Joe Hardin Lock Dam		5 north Grady,	110 by	20	182	18	14				196	$
Emmett Sanders and Dam		7 east of Bluff,	110 by	14	196	18	14				196	$
Lock and Dam		4 southeast Redfield,	110 by	17	213	18	14				196	$
David D. Terry and Dam		12 southeast Little Rock,	110 by	18	231	18	14				196	$
Murray Lock and (No.		6 northwest Little Rock,	110 by	18	249	18	14				196	$
Toad Suck Lock and Dam		6 west Conway,	110 by	16	265	18	14				196	$58,568,0
Arthur V. Lock and Dam		3 southwest Morrilton,	110 by	19	284	18	14				196	$41,061,0
Dardanelle Lock Dam (No.		2 northwest Dardanelle,	110 by	54	338	18	14				196	$84,270,1
Lock and Dam		Delete	—	—	—	—	—				—	—

TABLE 37-H **ARKANSAS RIVER BASIN; AR, OK, AND KS:**

(See Section 1 of

Featur	Miles Up-strea fro	Miles Neares Tow	Lock Dimensio (feet)	Lif (feet	Elevatio Upper (feet,	Depth on Miter Uppe (feet	Depth on Miter Lowe (feet	Character of Foundatio	Kind of Dam	Type of Construc tion	Year Opened to Naviga-tion	Total Cos
Ozark-Jeta Lock and (No.		1 east Ozark AR	110 600	34	372	18	15				196	$85,629,412.
James W. Lock and (No.		7 east Fort Smith AR	110 600	20	392	18	14				196	$65,080,000.
TULSA												
W. D. Mayo and Dam (No.		4 east Redlan OK	110 600	20	412	14	15				197	$32,655,000.
Robert S. Kerr and Dam (No.		1 north Cowlin on,	110 600	48	460	18	14				197	$94,578,237.
Webbers Falls and Dam		1 northwes of Gore,	110 600	30	490	19	16				197	$83,738,277.
Chouteau Lock Dam (No.		4 northwes of Okay OK	110 600	21	511	15	14				197	$31,619,000.
Newt Graham and Dam		8 southwes of Inola, OK	110 600	21	532	15	14				197	$44,355,000.

TABLE 37-H **ARKANSAS RIVER BASIN; AR, OK, AND KS: NAVIGATION**

(See Section 1 of

Additional features entering into cost of project

Little Rock		**Upstream**	
Bank stabilization and channel rectification, mile Arkansas-White Cutoff, 100 percent	$119,300,1	Oologah, 90.2 miles upstream from mouth,	$ 46,722,3
Maintenance and repair fleet and	10,247,0	Keystone, 638.8 miles upstream from mouth,	123,170,7
Total, Little Rock	814,362,7	Eufaula, 27 miles upstream from mouth,	124,130,7
Navigation aids (U.S. Coast	2,268,00		294,023,8
Tulsa			
Bank stabilization and channel rectification, to Fort Smith,	12,700,0	Total, Tulsa	603,277,4
Maintenance and repair fleet and	2,750,00	Total Project Cost 96 percent	$1,419,908,1
	$309,253,5		

1. Navigation mileage from mouth of White River, except Dam No. 2, is 40.5 miles above mouth of
2. Details in Tulsa District

TABLE 37- # ARKANSAS RIVER BASIN; AR, OK, AND KS: LAKES

(See Section 1 of

Lake and	Rive	Miles Abov Mout	Nearest	Drainag Are (sq	Heigh of (feet	Typ	Reservoi Capacit (acre-	Power Developm (kilowatt	Year Percen Comple	Total Cos
Blue Mountain,	Petit	74.	Paris,	488	115	Earthfi	257,90	-	194	$ 5,069,97
Canton,	North	384.	Canton,	12,48	68	Earthfi	383,30	-	194	11,209,8
Elk City, (Table	Elk	8.7		634	107	Earthfi	284,30	-	196	19,052,9
Eufaula,	Canadia	27.	Eufaula,	47,52	114	Earthfi	3,798,00	90,00	196	123,795,9
Fall River,	Fall	54.	Fall River,	585	94	Earthfi	256,40	-	194	10,550,8
Fort Gibson,	Grand	7.7	Fort Gibson,	12,49	110	Concret	1,284,40	45,00	195	43,821,4
Keystone,	Arkans	538.	Sand Springs,	74,50	121	gravit	1,836,50	70,00	196	123,171,1
Markham Ferry,	Grand	47.	Pryor,	11,53	90	Earthfi	444,50	100,00	196	6,908,75
Neodesha,	Verdigr	222.	Neodesha,	1,15	74	Earthfi	90,00	-	0	97,91
Nimrod,	Fourche La	62.	Plainview,	680	103	Earthfi	336,01	-	194	4,092,82
Oologah,	Verdigr	90.	Claremore,	4,33	137	Concret	1,519,00	-	197	37,029,9
Pensacola.	Grand	77.	Disney,	10,29	147	gravit	2,197,00	86,40	194	52,12
Tenkiller Ferry,	Illinoi	12.	Gore,	1,61	197	Earthfi	1,230,80	34,00	195	25,963,5
Toronto,	Verdigr	271.	Toronto,	730	90	Concrete	199,70	-	196	13,896,3
Wister,	Potea	60.	Wister,	993	99	Earthfi	427,90	-	194	10,687,4
Subtotal, exclusive of Eufaula, Keystone,										151,403,9
Arkansas River Basin; AR, OK and KS; Navigation										1,419,908,1
Total, Arkansas River Basin, 96										1,571,312,1

1.Project includes facilities for production of hydroelectric
2.Cost included in navigation
3.Details in Tulsa District
4.Constructed by State of Oklahoma under the name of Robert S. Kerr Dam (Lake Hudson). Estimate shown is for Federal
5.Inactive. Estimate is based on 1954 price
6.Constructed by State of Oklahoma under the name Grand River Dam (Lake O The Cherokees). Estimate shown is for Federal

TABLE 37-J LITTLE RIVER BASIN, AR: LAKES

(See Section 26 of Text)

Project	River	Site	Nearest Town
DeQueen Lake	Rolling Fork River	22.8	DeQueen, AR
Gillham Lake	Cossatot River	49	Gillham, AR
Dierks Lake	Saline River	56.6	Dierks, AR
Millwood Lake	Little River	16	Millwood, AR

1. Project is reported separately herein.

TABLE 37-K WHITE RIVER BASIN; AR, AND MO: LAKES

(See Section 34 of

Lak	Rive	Miles Abov Mout	Nearest	Drainag Are (sq	Heigh of (feet	Typ	Reservoi Capacit (acre-	Power Developm (kilowatt	Total Cos
Beav [1]	Whit	609	Eureka Springs,	1,18	228	Concrete-gravity &	1,952,00	112,00	$ 52,631,4
Bull [1]	Whit	418.	Mountain Home,	6,03	258	Concrete-	5,408,00	340,00	96,356,0
Clearwat [1]	Blac	257.	Piedmont,	898	154	Earthfi	413,00	---	22,462,5
Greers [1]	Little	79.	Heber Springs,	1,14	243	Concrete-	1,844,00	96,00	55,125,0
Norfor [1]	North	4.8	Norfork,	1,80	216	Concrete-	1,983,00	80,55	111,624,0
Table [1]	Whit	523.	Branson,	4,02	252	Concrete-gravity &	3,462,00	200,00	71,233,0
Tota							15,062,0	828,55	409,432,0

1. For details see individual
2. Inactive - placed in a deferred status in May 1985. Estimate based on 1983

TULSA, OKLAHOMA, DISTRICT

The civil works boundary of the Tulsa District includes an area of approximately 160,000 square miles covering Oklahoma and parts of Kansas and Texas within the Arkansas and Red River Basins. The District's responsibilities within the Arkansas River Basin cover southern Kansas, northern Oklahoma, and the Texas Panhandle. These areas are included in the drainage basin of the Arkansas River and its tributaries above the mouth of the Poteau River, extending to the Kansas-Colorado State line, exclusive of that portion of the South Canadian River Basin and its tributaries west of the Texas-New Mexico State line. The District's responsibilities within the Red River Basin cover the northern portion of Texas, and the southern portion of Oklahoma. These areas are embraced in the drainage basin of the Red River and its tributaries above Index Arkansas.

IMPROVEMENTS

Navigation

1. McCLELLAN-KERR ARKANSAS RIVER NAVIGATION SYSTEM (Tulsa District Portion), OK

Location. The Tulsa District portion of the McClellan-Kerr Arkansas River Navigation System provides a navigation route up the Arkansas River from the Oklahoma-Arkansas State line to the head of navigation at Catoosa, OK, near Tulsa, OK. The total length of the Tulsa District portion of the system is 137 navigation miles. Descriptions and costs for the entire navigation system can be found in Little Rock District's entry in this Annual Report.

Existing projects. The McClellan-Kerr Arkansas River navigation project is a component of the multiple-purpose plan for the Arkansas River Basin, which provides for the improvement of the basin through the construction of coordinated developments for navigation, hydroelectric power, flood control, water supply, water quality control, sediment control, recreation, and fish and wildlife propagation. The McClellan-Kerr project also includes bank stabilization, channel straightening, and cutoffs as required. The navigation channel has a minimum depth of 9 feet and minimum widths of 250 feet on the Arkansas River and 150 feet on the Verdigris River. The Tulsa District portion of the navigation system consists of Arkansas River Bank Stabilization and Channel Rectification, Chouteau Lock and Dam, Newt Graham Lock and Dam, Robert S. Kerr Lock and Dam and Reservoir, Robert S. Kerr Marine Terminal, Sans Bois Navigation Channel, W.D. Mayo Lock and Dam, Webbers Falls Lock and Dam, and the pool in Oklahoma which was created by Lock and Dam 13 in Arkansas. The other parts of the multiple-purpose plan for the Arkansas River Basin are listed in Table 29-H.

Local cooperation. Fully complied with.

Terminal facilities. Public port facilities are in operation at Muskogee and Catoosa, OK, and Fort Smith, AR. Other private commercial port facilities are complete and in operation at eight Oklahoma locations.

Operations and results during fiscal year. Routine operation and maintenance continued.

2. OTHER AUTHORIZED NAVIGATION PROJECTS

See Table 38-C.

Flood Control

3. ARCADIA LAKE, OK

Location. On the Deep Fork River, at river mile 218.3, in the metropolitan area of Oklahoma City and Edmond, OK, about 1.5 miles west of Arcadia, in Oklahoma County, OK. (See Arcadia, OK, Geological Survey map, scale 1:24,000.)

Existing project. The plan of improvement provides for flood control, water supply, and recreation by construction of an earth fill dam approximately 102 feet high and 5,250 feet long with a high-level uncontrolled spillway. Outlet works consist of a gated tower and conduit. The lake has a total capacity of 92,000 acre-feet (27,380 for conservation, 64,430 for flood control, and 190 for sedimentation reserve), and controls a 105-square-mile drainage area. Construction began in October 1980, and the project became operational for flood control in November 1986.

Local cooperation. Fully complied with.

Operations and results during fiscal year. Routine operation and maintenance continued.

4. ARKANSAS CITY, KS

Location. Arkansas City is located approximately 4 miles north of the Kansas-Oklahoma state line at the crossroads of U.S. Highway's 77 and 166, in Cowley County, KS, immediately northwest of the confluence of the Arkansas and Walnut Rivers.

Existing project. The project consists of raising and extending approximately 6 miles of levee along the Arkansas and Walnut Rivers, and rechanneling approximately 2-1/2 miles of the Walnut River. Structural steel gates will be constructed at two railroad/river crossings and stop log structures will be constructed at two U.S. Highway/river crossings.

Local cooperation. A Project Cooperation Agreement was signed on September 4, 1996. The city of Arkansas City, the local sponsor, is currently fulfilling their requirements.

Operations and results during fiscal year. Phase II was completed. Phase III is under construction.

5. ARKANSAS-RED RIVER BASINS CHLORIDE CONTROL PROJECTS, KS, OK, AND TX

Location. On certain tributary streams of the Arkansas and Red Rivers in the western half of the Tulsa District.

Existing project. The project was initiated as a result of studies involving the control of water pollution caused by 15 natural salt sources identified in 1957 by the U.S. Public Health Service. The Arkansas and Red Rivers are major national and regional water resources, which are severely limited due to poor water quality primarily caused by the natural pollutant, sodium chloride. The Arkansas River is polluted by five naturally occurring salt sources located in northwestern Oklahoma and southwestern Kansas. The Red River Basin is polluted by 10 naturally occurring salt sources located in northwestern Texas and southwestern Oklahoma. Preliminary Feasibility Studies included the construction and subsequent maintenance of an injection well and a ring dike used for data collection. Preauthorization studies completed in 1966 and 1970 recommended construction of project features at 13 of the 15 chloride emission areas. For a detailed discussion of the chloride control projects, see page 19-4 of the Annual Report for 1983. The Water Resources Development Act (WRDA) of 1986 (PL 99-662) authorized the Red River Basin and the Arkansas River Basin as separate projects with separate authority under Section 203 of the Flood Control Act of 1966. The Arkansas River portion of the project was deferred in 1982 (not economically justified).

5a. AREA V, ESTELLINE SPRINGS, TX

Location. Chloride Control Area V is located about 0.5 miles east of Estelline, TX, on the Prairie Dog Town Fork of the Red River.

Existing project. For a description of the completed improvement, see the Annual Report for 1987. Construction started in 1963, and the structure was completed in 1964.

Local cooperation. Descriptive text concerning local cooperation requirements is given on page 19-5 of the Annual Report for 1983.

Operations and results during fiscal year. Routine operation and maintenance continued.

5b. AREA VIII, TX

Location. Chloride Control Area VIII is located at river mile 74.9, of the South Fork of the Wichita River, in King County, TX, about 5 miles east of Guthrie, TX.

Existing project. The plan of improvement consists of a low-flow brine collection dam (the Bateman Low-Flow Dam) with attendant pumping station and pipeline facilities. The collected brine is pumped to the storage reservoir behind the Truscott Brine Dam. This brine dam, located at river mile 3.6 on Bluff Creek (a tributary of the North Fork of the Wichita River) about 3 miles northwest of Truscott, TX, contains collected brine from Area VIII and will contain brine collected in the future from Area X. Construction was initiated at Area VIII and Truscott Brine Dam in 1976. The Bateman Low-Flow Dam was completed and put into full operation in May 1987.

Local cooperation. Descriptive text concerning local cooperation requirements is given on page 19-5 of the Annual Report for 1983.

Operations and results during fiscal year. Routine operation and maintenance continued.

5c. RED RIVER BASIN CHLORIDE CONTROL, TX & OK

Location. The project is located in Cottle, Hall, and King Counties, TX, and Harmon County, OK, along the Wichita and Red Rivers. Area VI is located on the Elm Fork of the Red River in Harmon County, OK; Area VII is on the North Fork of the Wichita River, Cottle County, TX; Crowell Brine Dam is on Canal Creek, a tributary of the Pease River; Area IX is on the Middle Pease River, Cottle County, TX; Area X is on the Middle Fork of the Wichita River, King County, TX; and Areas XIII-XIV are on the Jonah and Salt Creeks of Prairie Dog Town Fork of the Red River, Hall County, TX.

Existing project. The plan of improvement consists of one deep-well injection system, three brine storage reservoirs, four low-flow brine collection dams, two well collection facilities, six pumping plants, and 56.3 miles of pipeline. Construction was completed at Estelline Springs, Area VIII (low-flow dam, pumpstation and pipeline), Area X (low-flow dam and pumpstation) and Truscott Lake. In 1987, Area VIII began operation, pumping brines to Truscott Lake.

Local Cooperation. Section 1107 of the Water Resources Development Act of 1986 authorized the project at full Federal expense. The Red River Authority of Texas has signed a 221 Agreement as the non-Federal sponsor.

Operation and results during fiscal year. Estimated total cost of the project is $241,500,000 (October 1997 price level base). A draft Supplement to the Final Environmental Impact Study (SFEIS) was submitted for public review in May 1995. Finalization of the SFEIS has been put on hold indefinitely and the Assistant Secretary of the Army for Civil Works directed that a reevaluation of the Wichita River Basin be performed with available funding. The Wichita Basin Reevaluation effort was completed and a Record of Decision (ROD) was executed in March 2004. Efforts are underway to complete the Wichita Basin portion of the project.

6. BIRCH LAKE, OK

Location. On Birch Creek at river mile 0.8, about 1.5 miles south of Barnsdall, in Osage County, OK. (See Barnsdall, OK, Geological Survey map, scale 1:24,000.)

Existing project. For a description of the completed improvement, see the Annual Report for 1979. Construction began in November 1973, and the project was placed in useful operation in March 1977.

Local cooperation. Fully complied with.

Operations and results during fiscal year. Routine operation and maintenance continued.

7. BOWIE COUNTY LEVEE, TX

Location. Bowie County is located in northeastern Texas, along the Red River, near Texarkana, Texas. The Bowie County Levee is situated on the south side of the Red River and extends almost 9 miles from the Kansas City Southern Railroad embankment westward to an area near Wamba, Texas. (See Wamba, TX, Gelogical Survey map, scale 1:24,000.)

Existing project. The project, as authorized under the Flood Control Act of 1946, provides for the rehabilitation of the existing Bowie County, Texas, Levee. The levee was constructed in 1913 by the Bowie County Levee District No. 1. The Bowie County Levee is part of a levee system, which includes the Miller County Levee that extends downstream approximately 35 miles. The existing Bowie County Levee does not meet current design standards and has not received proper maintenance. Studies completed in 1994 indicated that no economically feasible flood control alternative was identified and Federal interest in pursuing detailed design and project construction was not warranted. Legislation passed in FY 01 re-authorized the project to include rehabilitation of approximately 6 miles of the existing levee and construction of approximately 4 miles of new levee. This project will be constructed at an estimated cost of $14,143,000.

Local cooperation. Additional legislation is required to allow the Government to build the levee proposed by the local sponsor. The Government has determined that this project will be cost-shared in accordance with the Flood Control Act of 1936.

Operations and results during fiscal year. In the FY 01 Appropriations Bill, the Corps was directed to proceed toward completion of this project. During FY 04, NEPA coordination will be initiated including extensive archaeological mitigation.

8. CANDY LAKE, OK

Location. On Candy Creek, a tributary of Bird Creek in the Verdigris River Basin, at river mile 1.9. The damsite is about 1.5 miles northeast of Avant in Osage County, OK. (See Avant, OK, Geological Survey map, scale 1:24,000.)

Existing project. The plan of improvement provides for an earthfill dam about 4,200 feet long, including an uncontrolled concrete spillway, with a maximum height of 103 feet above the streambed. Outlet works will consist of a gated intake structure, a 10x11.25-foot conduit, and a stilling basin. An 18x24-inch low-flow pipe and an 18-inch water supply pipe will be provided. The lake will have a total capacity of 75,420 acre-feet (44,160 for conservation and sediment reserve and 31,260 for flood control). The drainage area above the damsite is 43 square miles. Candy Lake will be operated as a unit of a seven-lake system for flood control in the Verdigris River Basin in Oklahoma. Funds were not provided to complete construction and in 1996 deauthorization of Candy Lake was published in the Federal Register.

Local cooperation. Section 2 of the Flood Control Act of 1938, the Water Supply Act of 1958, and Section 221 of the Flood Control Act of 1970, apply.

Operations and results during fiscal year. WRDA 99 mandated selling deauthorized project lands back to the former owners or their descendants. With funds of $360,000 provided in FY 03, the transfer will be completed. Tulsa District has identified previous landowners and their descendants and will complete cultural resource and NEPA investigations in June of 2004. Landowner notices to purchase will be sent by August 2004.

9. CANTON LAKE, OK

Location. On the North Canadian River at river mile 394, about 2 miles north of Canton in Blaine County, OK. (See Canton, OK, Geological Survey map, scale 1:24,000.)

Existing project. For a description of the completed improvement, see page 590 of the Annual Report for 1969. Construction began in December 1940, and the project was placed in useful operation in April 1948.

Local cooperation. The Canton Lake Committee was established to improve coordination and communication between the multi-purpose users of Canton Lake. The committee coordinates Oklahoma City's water supply release schedule with interested parties to minimize impacts.

Operations and results during fiscal year. A Dam Safety Report was submitted to HQUSACE in March 2001. The purpose of the report was to evaluate and select an alternative to address the inability of the project to safely pass the Probable Maximum Flood (PMF). Repair and rehabilitation of the tainter gates is underway at $1.5 million. Routine operation and maintenance continued.

10. COPAN LAKE, OK

Location. On the Little Caney River, a tributary of the Caney River, in the Verdigris River Basin, at river mile 7.4, about 2 miles west of Copan in Washington County, OK. (See Copan, KS, Geological Survey map, scale 1:24,000.)

Existing project. For a description of the completed improvement, see page 19-7 of the Annual Report for 1983. Copan Lake is operated as a unit of a seven-lake system for flood control in the Verdigris River Basin in Oklahoma. Construction began in November 1972, and the project was placed in useful operation in April 1983.

Local cooperation. Fully complied with.

Operations and results during fiscal year. Routine operation and maintenance continued.

11. COUNCIL GROVE LAKE, KS

Location. On the Grand (Neosho) River at river mile 450, about 1.5 miles northwest of Council Grove, in Morris County, KS. (See Council Grove Lake, KS, Geological Survey map, scale 1:24,000.)

Existing project. For a description of the completed improvement, see page 519 of the Annual Report for 1969. Construction began in June 1959, and the project was placed in useful operation in July 1964.

Local cooperation. Fully complied with.

Operations and results during fiscal year. Repair and rehabilitation of embankment road was completed at $500,000. Congressional add funds were expended for construction of shower/toilet building at $399,000. Routine operation and maintenance continued.

12. EL DORADO LAKE, KS

Location. On the Walnut River, a tributary of the Arkansas River, at river mile 100.2, about 4 miles northeast of El Dorado in Butler County, KS. (See El Dorado, KS, Geological Survey map, scale 1:24,000.)

Existing project. For a description of the completed improvement, see page 19-7 of the Annual Report for 1983. El Dorado Lake was authorized as a unit of a three-lake system for flood control in the Walnut River Basin. Construction began in October 1973, and impoundment began in June 1981. Project is complete.

Local cooperation. By payment of $8.17 million on May 18, 1997, the Kansas Department of Wildlife and Parks has fully complied with the Local Cooperation Agreement.

Operations and results during fiscal year. WRDA 99 mandated the transfer without consideration of 51.98 acres of land to the state of Kansas for use as Honor Camps. The state of Kansas must pay for the administrative costs of the land transfers. A letter was sent to the state of Kansas informing the state of the administrative

costs. The state of Kansas is not interested in paying the administrative costs and is not pursuing the land transfer. Routine operation and maintenance continued.

13. ELK CITY LAKE, KS

Location. On the Elk River at river mile 8.7, about 7 miles northwest of Independence, in Montgomery County, KS. (See Table Mound, KS, Geological Survey map, scale 1:24,000.)

Existing project. For a description of the completed improvement, see page 593 of the Annual Report for 1969. Construction began in February 1962, and the project was placed in useful operation in March 1966.

Local cooperation. Fully complied with.

Operations and results during fiscal year. Routine operation and maintenance continued.

14. FALL RIVER LAKE, KS

Location. On the Fall River at river mile 54.2, about 4 miles northwest of Fall River, in Greenwood County, KS. (See Severy, KS, Geological Survey map, scale 1:24,000.)

Existing project. For a description of the completed improvement, see page 953 of the Annual Report for 1969. Construction began in May 1946, and the project was placed in full operation in April 1949.

Local cooperation. Fully complied with.

Operations and results during fiscal year. Routine operation and maintenance continued.

15. FORT SUPPLY LAKE, OK

Location. On Wolf Creek, a tributary of the North Canadian River, at river mile 5.5, about 12 miles northwest of Woodward, in Woodward County, OK. (See Fort Supply, OK, Geological Survey Map, scale 1:24,000.)

Existing project. For a description of the completed improvement, see page 594 of the Annual Report for 1969. Construction began in October 1938, and the project was placed in full flood control operation in May 1942.

Local cooperation. Fully complied with.

Operations and results during fiscal year. Routine operation and maintenance continued.

16. FRY CREEKS, BIXBY, OK

Location. In the northern part of the city of Bixby, in Tulsa County, OK.

Existing project. The project consists of enlarging both Fry Creeks, diverting Fry Creek 1 into Fry Creek 2 and then diverting the combined creeks into the Arkansas River. The total length of the modified channels would total 4.3 miles, with bottom widths of 30 to 225 feet and depths of 6 to 12 feet. Three bridges will be constructed and 20 acres of land has been acquired for mitigation of fish and wildlife losses. Estimated total cost of the project is $14,513,000.

Local Cooperation. The Project Cooperation Agreement was signed with the city of Bixby, OK, in January 1995.

Operations and results during fiscal year. Construction efforts were completed in FY 00.

17. GREAT BEND, KS

Location. In Barton County, KS, on the north bank of the Arkansas River about 4.5 miles above its confluence with Walnut Creek. (See Great Bend, KS, Geological Survey map, scale 1:24,000.)

Existing project. The plan, authorized by the Flood Control Act of 1965, provides for 6.2 miles of leveed channel to divert Walnut Creek flood flow around Great Bend into the Arkansas River upstream from the city; a 1.5-mile leveed channel to divert Little Walnut Creek flood flow into the Walnut Creek diversion levees along the Arkansas River; a tie-back levee 4.3 miles long on the Arkansas River left bank upstream from the junction of the Walnut diversion channel; and appurtenant facilities.

Local cooperation. Fully complied with.

Operations and results during fiscal year. Financial closeout on this project was completed during FY 97. This project has been fully operational since June 1994. Estimated total cost of the project is $36,350,000 (October 1994 price level base).

18. GREAT SALT PLAINS LAKE, OK

Location. On the Salt Fork of the Arkansas River at river mile 103.3, about 12 miles east of Cherokee, in Alfalfa County, OK. (See Jet, OK, Geological Survey map, scale 1:24,000.)

Existing project. For a description of the completed improvement, see page 594 of the Annual Report for 1969. Construction of the project began in September 1938, and was completed in July 1941. The project was placed in full flood control operation in May 1941.

Local cooperation. Fully complied with.

Operations and results during fiscal year. Routine operation and maintenance continued.

19. HALSTEAD, KS

Location. In the city of Halstead, in Harvey County, KS, along the Arkansas River. (See Halstead, KS, Geological Survey Map, scale 1:24,000.)

Existing project. Provides for channel modification and construction of about 4 miles of levee in combination with straightening and widening approximately 3.6 miles of the Little Arkansas River channel to a 50-foot-bottom width in the vicinity of Halstead. Channel modification will be restricted to one side of the channel except in transition areas. Tree planting and re-vegetation will be done and ten pool riffle areas will be established to minimize environmental impacts.

Local cooperation. Fully complied with.

Operations and results during fiscal year. The project is fully operational, however, a construction claim has been the subject of a court proceeding. The outcome of this issue is pending.

20. HEYBURN LAKE AND POLECAT CREEK, OK

Location. On Polecat Creek, a minor tributary of the Arkansas River, at river mile 48.6, about 11 miles west of Sapulpa, in Creek County, OK. (See Lake Heyburn, OK, Geological Survey map, scale 1:24,000.)

Existing project. For a description of the completed improvement, see page 599 of the Annual Report for 1969. Construction started in March 1948, and the project was placed in useful operation in October 1950. Channel improvements below the lake were completed in September 1952.

Local cooperation. The channel improvement project below the lake was never maintained by the sponsor, Joint Drainage District No. 1, Tulsa and Creek Counties, OK. For this reason, the channel returned to its pre-project condition and does not provide flood protection for the affected area. The Corps of Engineers discontinued maintenance inspections of the channel project in 1982, due to the condition of the project and lack of cooperation on the part of the sponsor.

Operations and results during fiscal year. Routine operation and maintenance continued.

21. HUGO LAKE, OK

Location. On the Kiamichi River at river mile 17.6, about 7 miles east of Hugo, in Choctaw County, OK. (See Hugo Dam, OK, Geological Survey map, scale 1:24,000.)

Existing project. For a description of the completed improvement, see page 19-12 of the Annual Report for 1977. Construction began in October 1967, and the project was placed in useful operation in January 1974.

Local cooperation. Fully complied with.

Operations and results during fiscal year. WRDA 99 mandated the sale of approximately 250 acres of project lands at Hugo Lake to the Choctaw County Industrial Authority at fair market value. Tulsa

District completed NEPA documentation, surveys and other activities needed for the land transfer. The Deed of Transfer has been submitted to HQ for Secretary of the Army execution. Routine operation and maintenance continued.

22. HULAH LAKE, OK

Location. On the Caney River at river mile 96.2, about 15 miles northwest of Bartlesville, near Hulah, in Osage County, OK. (See Bowring, OK, Geological Survey map, scale 1:24,000.)

Existing project. For a description of the completed improvement, see page 595 of the Annual Report for 1969. Construction began in May 1946, and was completed in June 1950. The project was placed in full flood control operation in September 1951.

Local cooperation. Fully complied with.

Operations and results during fiscal year. Routine operation and maintenance continued.

23. JOHN REDMOND DAM AND RESERVOIR, KS

Location. The dam is located on the Grand (Neosho) River at river mile 343.7, about 2 miles northwest of Burlington, in Coffey County, KS. (See John Redmond Dam, KS, Geological Survey map, scale 1:24,000.)

Existing project. For a description of the completed improvement, see page 581 of the Annual Report for 1970. Construction was initiated in July 1959, and was completed in December 1965. The project was placed in flood control operation in July 1964.

Local cooperation. Fully complied with.

Operations and results during fiscal year. Routine operation and maintenance continued.

24. KAW LAKE, OK

Location. On the Arkansas River at river mile 653.7, about 8 miles east of Ponca City, in Kay County, OK. (See Charley Creek West, OK, Geological Survey map, scale 1:24,000.)

Existing project. For a description of the completed improvement, see page 19-13 of the Annual Report for 1977. Construction began in June 1966, and the project was placed in operation in May 1976.

Local cooperation. Fully complied with.

Operations and results during fiscal year. Routine operation and maintenance continued.

25. LAKE KEMP, TX

Location. On the Wichita River at river mile 126.7, about 40 miles southwest of Wichita Falls, TX. (See Northeast Lake Kemp, TX, Geological Survey Map, scale 1:24,000.)

Existing project. For a description of the completed improvement, see page 19-14 of the Annual Report for 1977. Construction began in May 1970, and the project was placed in useful operation in October 1972.

Local cooperation. Fully complied with.

Operations and results during fiscal year. Routine operation and maintenance continued.

26. LAKE WICHITA, HOLLIDAY CREEK, TX

Location. The project is located in Wichita and Archer Counties, TX. The Lake Wichita dam and the Holliday Creek channel are located in the city of Wichita Falls, TX. (See Wichita Falls, TX, Geological Survey Map, scale 1:24,000.) Financial closeout is ongoing and scheduled to be complete during FY 01.

Existing project. The existing Lake Wichita dam was replaced with an earthen dam approximately 16,000 feet long with a concrete spillway, an auxiliary spillway, and low-flow outlet works. Channel improvements along Holliday Creek from the new spillway to the Wichita River, a distance of 9.3 miles, were also constructed.

Local cooperation. Fully compiled with.

Operations and results during fiscal year. The project was completed October 1, 1996, and is fully operational. Estimated total project cost is $48,789,000 (October 1995 price level base). Financial closeout is ongoing and scheduled to be complete during FY04.

27. MARION RESERVOIR, KS

Location. On the Cottonwood River at river mile 126.7, about 3 miles northwest of Marion, in Marion County, KS. (See Pilson, KS, Geological Survey map, scale 1:24,000.)

Existing project. For a description of the completed improvement, see page 597 of the Annual Report for 1969. Construction began in June 1964, and the project was placed in flood control operation in February 1968.

Local cooperation. Fully complied with.

Operations and results during fiscal year. Routine operation and maintenance continued.

28. MCGRATH CREEK, WICHITA FALLS, TX

Location. The project is located in the northern central portion of Texas, in the city of Wichita Falls.

Existing project. McGrath Creek is approximately 3,900 feet long and connects Sikes Lake and the recently constructed Holliday Creek project. The project involves realigning and concrete lining the McGrath Creek Channel, and constructing a new spillway to pass flows through Sikes Lake.

Local cooperation. The city of Wichita Falls, TX, is the non-Federal sponsor. The Project Cooperation Agreement was executed in November 1994.

Operations and results during fiscal year. Project construction is completed. Estimated total project cost is $14,500,000. Financial closeout occurred in FY 00.

29. MINGO CREEK, OK

Location. On the right-bank tributary of Bird Creek in the city of Tulsa, in Tulsa County, OK. (See Tulsa, OK, Geological Survey Map, scale 1:24,000.)

Existing project. The project consists of 23 detention sites to capture peak flows and hold them temporarily until downstream flows subside. There are approximately 9.4 miles of channelization in selected locations on the tributaries and main stem of Mingo Creek. Estimated total project cost is $123,960,725.

Local cooperation. The local sponsor is the city of Tulsa, OK, and has been fully complied with. The city has constructed 4.75 miles of channel and placed two excavated detention facilities into flood control operation prior to initiation of Federal construction in September 1988. Reimbursement to date for work completed by the city of Tulsa is $19,000,000. Construction efforts were completed in FY01.

Operations and results during fiscal year. Project is estimated to closeout in FY04.

30. OOLOGAH LAKE, OK

Location. On the Verdigris River at river mile 90.2, about 2 miles southeast of Oologah, in Rogers County, OK. (See Oologah, OK, Geological Survey map, scale 1:24,000.)

Existing project. For a description of the completed improvement, see page 19-15 of the Annual Report for 1972. Construction began in July 1950, but the project was placed in standby status in October 1951. Construction resumed in December 1955, and was completed in May 1963 for initial development. Construction for ultimate (second stage) development was initiated in July 1967, and was completed in 1974.

Local cooperation. Fully complied with.

Operations and results during fiscal year. Congressional add funds in the amount of

$285,000 were expended for erosion control repair. Routine operation and maintenance continued.

31. OPTIMA LAKE, OK

Location. On the North Canadian River at river mile 623.2, about 4.5 miles northeast of Hardesty, in Texas County, OK. (See Optima Dam, OK, Geological Survey map, scale 1:24,000.)

Existing project. For a description of the existing improvement, see page 19-16 of the Annual Report for 1979. Construction began in March 1966, and impoundment began in October 1978. Construction was completed in 1981.

Local cooperation. Fully complied with.

Operations and results during fiscal year. Routine operation and maintenance continued.

32. PARKER LAKE, OK

Location. On Muddy Boggy Creek, a tributary of the Red River, about 23 miles east of Ada, in Coal County, OK. (See Parker, OK, Geological Survey map, scale 1:24,000.)

Existing project. Parker Lake, if constructed, would be a multipurpose element in a plan of improvement for the Upper Muddy Boggy Creek Basin, OK. The project would consist of an earth fill dam about 2,200 feet long, a gated outlet works for flood control and water supply, and a 100-foot-wide spillway. The lake created would have a total storage capacity of 220,240 acre-feet and would yield 42 million gallons per day for municipal and industrial water supply. The project was authorized by WRDA of 1986. The project has not been funded for construction, however, a Limited Project Review of the project is scheduled to be completed in March 1998. Federal accomplishment of single purpose municipal and industrial water supply projects is not in accord with current Administration priorities.

Local cooperation. The Oklahoma Water Resources Board, the sponsor, has agreed to cost share in the flood control portion of the project and the water supply provided enough interested users for the water supply can be identified.

Operation and results during fiscal year. Estimated total project cost is $71,400,000 (October 1992 price level base).

33. PAT MAYSE LAKE, TX

Location. On Sanders Creek, a tributary of the Red River, at river mile 4.6, about 12 miles north of Paris, in Lamar County, TX. (See Grant, TX, Geological Survey map, scale 1:24,000.)

Existing project. For a description of the completed improvement, see page 584 of the Annual Report for 1970. Construction began in March 1965, and the project was placed in full flood control operation in September 1967.

Local cooperation. Fully complied with.

Operations and results during fiscal year. Park roads were repaired at $100,000 at various locations. Routine operation and maintenance continued.

34. PEARSON-SKUBITZ BIG HILL LAKE, KS

Location. On Big Hill Creek at river mile 33.3, about 4.5 miles east of Cherryvale, KS. (See Dennis, KS, Geological Survey map, scale 1:24,000.)

Existing project. For a description of the completed improvement, see page 19-11 of the Annual Report for 1983. Construction began in April 1974, and impoundment began in March 1981.

Local cooperation. Fully complied with.

Operations and results during fiscal year. Routine operation and maintenance continued.

35. PINE CREEK LAKE, OK

Location. On the Little River at river mile 145.3, about 5 miles northwest of Wright City, in McCurtain County, OK. (See Wright City, OK, Geological Survey map, scale 1:24,000.)

Existing project. For a description of the completed improvement, see page 584 of the Annual Report for 1970. Construction began in February 1963, and the project was placed in useful operation in June 1969.

Local cooperation. Fully complied with.

Operations and results during fiscal year. Routine operation and maintenance continued.

36. SARDIS LAKE, OK

Location. On Jackfork Creek, a tributary of the Kiamichi River, at river mile 2.8, about 2.5 miles north of Clayton, in Pushmataha County, OK. (See Yanush, OK, Geological Survey map, scale 1:24,000.)

Existing project. For a description of the completed improvement, see page 19-11 of the Annual Report for 1983. Sardis Lake is operated as a unit of a two-lake system for flood control in the Kiamichi River Basin. (The other lake in the system is Hugo Lake). Construction began in August 1975, and the project became operational in January 1983.

Local cooperation. The Oklahoma Water Resources Board (OWRB) failed to make satisfactory arrangements to pay for the Sardis Lake water supply storage as agreed to in a letter exchange of September 1997. On July 2, 1998, the state of Oklahoma was declared in default under the contract. On July 14, 1998, the Department of Justice (DOJ) filed suit in the Northern District Court of Oklahoma. The litigation has not moved forward because of a taxpayer "qui tam" (Fent case) suit filed in January 1998 in the Western District Court of Oklahoma against the OWRB and the United States. The suit between OWRB and the United States was postponed until a decision was reached on the taxpayer "qui tam" suit. On March 4, 1999, the Western District Court dismissed OWRB and the United States from the suit. The Fent case was appealed to the Tenth Circuit U.S. Court of Appeals. The dismissal was upheld and the case was remanded. The Fent case was appealed to the Oklahoma Supreme Court (OSC) and the OSC accepted the case for review. The qui tam lawsuit was settled when the OSC ruled that the water storage contract between the State of Oklahoma and the United States Government is a legally binding contract. Since that decision, the Federal government has re-opened its lawsuit and it is now in litigation in the U.S. District Court for the Northern District of Oklahoma. The United States filed a motion for summary judgment on December 14, 2003. The State of Oklahoma filed its response on January 23, 2004. Work is ongoing.

Operations and results during fiscal year. Routine operation and maintenance continued.

37. SKIATOOK LAKE, OK

Location. On Hominy Creek, a tributary of Bird Creek in the Verdigris River Basin, at river mile 14.3, about 5 miles west of Skiatook, in Osage County, OK. (See Avant S.E., OK, Geological Survey map, scale 1:24,000.)

Existing project. For a description of the completed improvement, see Page19-8 of the Annual Report for 1987. Construction began in January 1974, impoundment began in October 1984, and the project became operational in November 1984.

Local cooperation. Fully complied with.

Operations and results during fiscal year. A dam safety project to rehabilitate the existing spillway was authorized with the approval of the Dam Safety Report in FY 97. Construction began in FY 01. The total project cost is estimated to be $10,000,000 (October 2000 price levels). Construction was complete in FY 03. Routine operation and maintenance continued. A major recreation lease was signed with the Skiatook Economic Development Authority for the provision of additional recreation facilities. This was Tulsa District's first action under the National Recreation Lakes Demonstration Program.

38. TORONTO LAKE, KS

Location. On the Verdigris River at river mile 271.5, about 4 miles southeast of Toronto, in Woodson County, KS. (See Fredonia, KS, Geological Survey map, scale 1:24,000.)

Existing project. For a description of the completed improvement, see page 600 of the Annual Report for 1969. Construction began in November 1954, and the project was placed in full operation in March 1960.

Local cooperation. Fully complied with.

Operations and results during fiscal year. WRDA 99 mandated the transfer, without consideration, of 31.98 acres of project lands to the state of Kansas for use as an Honor Camp. The state of Kansas must pay for the administration costs of the land transfer. A letter was sent to the state of Kansas informing the state of the administrative costs, however, the state is not interested in paying the costs and is not pursuing the land transfer. Routine operation and maintenance continued.

39. TULSA AND WEST TULSA LEVEES, OK

Location. On the banks of the Arkansas River near Tulsa, OK. On the left bank, the levee extends from river mile 531.0 near Sand Springs, OK, downstream to river mile 521.4 at Tulsa. On the right bank, the levee extends from near river mile 526.7 downstream to river mile 521.3 and is adjacent to the major portion of the business and residential districts in West Tulsa, Tulsa County, OK.

Existing project. The Tulsa and West Tulsa Levees were completed by the Tulsa District in 1945. The project was turned over to the Tulsa County Drainage District No. 12 for operations and maintenance. The project consists of 3 levees with a total length of about 20 miles and an average height of 10 feet. The levees provide protection from flooding to property valued at approximately $1 billion dollars. Many of the drainage pipes that pass under the levee have deteriorated and levee material has eroded into the pipes leaving small cavities in the embankment. The Tulsa District completed an evaluation of the levees in September 1989, which determined that rehabilitation would be required for the levees to operate as designed. Funds to repair the levee were provided in FY 91 and FY 94 by the U.S. Congress.

Local cooperation. The Local Cooperation Agreement (LCA) was executed in March 1992, with Tulsa County and Levee District No. 12, the non-Federal sponsors. In FY 99, a supplement to the LCA and additional funding was provided by the local sponsor to allow construction of Phase II.

Operations and results during fiscal year. Phase I contract for repair of 23 of the 48 deficient pipes was awarded July 30, 1992, and completed in July 1993. Phase II construction was initiated in the summer of 1999 and was completed in FY 00. Phase III construction was initiated in FY 01 and completed in FY 02.

40. WAURIKA LAKE, OK

Location. On Beaver Creek, a tributary of the Red River, at river mile 27.0, about 6 miles northwest of Waurika, in Jefferson County, OK. (See Hastings, OK-TX, Geological Survey map, scale 1:24,000.)

Existing project. For a description of the completed improvement, see page 19-12 of the Annual Report for 1983. Waurika Lake is operated as a unit of a coordinated lake system for flood control in the Red River Basin. Construction began in July 1971, and impoundment began in August 1977.

Local cooperation. Fully complied with.

Operations and results during fiscal year. Routine operations and maintenance continued.

41. WINFIELD, KS

Location. Winfield is located approximately 15 miles north of the Kansas-Oklahoma state line on U.S. Highway 77 in Cowley County, KS. The city is located immediately southeast of the confluence of the Walnut River and Timber Creek.

Existing project. The project consists of raising and extending approximately 4 miles of levee along Timber Creek and the Walnut River. Road ramps will be constructed at two locations where city streets cross the Walnut River.

Local cooperation. A Project Cooperation Agreement (PCA) was signed on September 4, 1996. The city of Winfield, the local sponsor, is currently fulfilling its requirements.

Operations and results during fiscal year. A construction contract was awarded in FY 98. Construction was completed in FY 99. The Project was transferred in FY 00.

42. WISTER LAKE, OK

Location. On the Poteau River at river mile 60.9, about 2 miles south of Wister, in LeFlore County, OK. (See Wister, OK, Geological Survey map, scale 1:24,000.)

Existing project. For a description of the completed improvement, see page 601 of the Annual Report for 1969. Construction began in April 1946, and was completed in May 1949. The project was placed in full flood control operation in October 1949.

Local cooperation. Fully complied with.

Operations and results during fiscal year. WRDA 99 mandated the transfer of 10-acres of project lands to the Summerfield Cemetery Association. NEPA documentation, surveys and other activities were performed leading up to the land transfer. A deed transferring 6.08 acres was sent to the cemetery association in September 2002. Project intake gates were repaired and rehabilitated at $586,000. Routine operation and maintenance continued.

43. OTHER AUTHORIZED FLOOD CONTROL PROJECTS

See Table 38-E.

44. INSPECTION OF COMPLETED LOCAL FLOOD PROTECTION PROJECTS

Inspections of completed, Federally constructed local flood protection projects which are owned, operated, and maintained by local interests are made to determine the extent of compliance with approved regulations for operations and maintenance. The inspections assist the Corps of Engineers in determining if the project provides the flood protection for which it was constructed. See Table 38-I for a list of projects inspected in FY 03. Fiscal year cost was $270,469.

45. SCHEDULING FLOOD CONTROL RESERVOIR OPERATIONS

The Tulsa District Corps of Engineers is responsible for flood control operations at 12 non-Corps projects. These include nine Bureau of Reclamation lakes, two Grand River Dam Authority lakes, and one city-county owned lake. All of these projects were constructed wholly or in part with Federal funds. Routine flood control releases were required at several of the projects. Fiscal year costs for scheduling flood control reservoir operations totaled $762,935.

46. EMERGENCY RESPONSE ACTIVITIES - FLOOD CONTROL AND COASTAL EMERGENCIES

a. Disasters. The Emergency Operations Center (EOC) was activated only one time during FY03. This occurred during May 2003 in support of the Oklahoma City tornadoes. Work involved daily situation reports monitoring conditions during non-routine work periods. One person was dispatched to the State EOC in Oklahoma City. Damage did not exceed Local and State Government capabilities.

b. Operational Program Areas. Fiscal year cost for catastrophic disaster preparedness was $7,441; $10,819 for Nationwide Civil Works Activities; $734,295 for anti-terrorism force protection $197,136 for disaster preparedness; $880 for the emergency operations; and $2,591 for emergency water supplies and drought assistance.

c. Emergency Work in Support of Other Federal Agencies. Support work was performed for FEMA in response to the Super Typhoon Pongsona in December 2002 and January 2003. We also assisted in the debris recovery efforts from the Space Shuttle Columbia disaster in February 2003. The SWT Power PRT deployed to Richmond,

VA in response to the Hurricane Isabel recovery efforts in September 2003.

47. FLOOD CONTROL WORK UNDER SPECIAL AUTHORIZATION

See Table 38-J for FY 02 expenditures for Small Flood Control Projects Not Specifically Authorized by Congress (Section 205); Emergency Streambank and Shoreline Projects (Section 14).

Multiple-Purpose Projects Including Power

48. BROKEN BOW LAKE, OK

Location. On the Mountain Fork River at river mile 20.3, about 9 miles northeast of Broken Bow, in McCurtain County, OK. (See Broken Bow, OK, Geological Survey map, scale 1:24,000.)

Existing project. For a description of the completed improvements, see page 29-17 of the Annual Report for 1971. Construction began in November 1961, and the project was placed in useful operation in October 1969. Power units 1 and 2 were placed in operation in January and June 1970, respectively.

Local cooperation. The development of a trout fishery in the Mountain Fork River below Broken Bow Lake was implemented in 1989, in cooperation with the Corps of Engineers (Corps), Southwestern Power Administration, Oklahoma Department of Wildlife Conservation, and OWRB. The operation of the trout stream has been cooperatively managed by a Memorandum of Understanding. WRDA of 1996, Sec. 338, modified the project to provide for the reallocation of sufficient quantity of water supply storage space to support the Mountain Fork trout fishery at no expense to the state of Oklahoma. The District is waiting on implementing guidance.

Operations and results during fiscal year. Routine operation and maintenance continued. Customer-funded replacement of the hydropower vacuum circuit breaker was completed at $186,000.

49. EUFAULA LAKE, OK

Location. On the Canadian River at river mile 27.0, about 12 miles east of Eufaula, in McIntosh County, OK. (See Porum, OK, Geological Survey map, scale 1:24,000.)

Existing project. For a description of the completed improvement, see page 588 of the Annual Report for 1970. Construction began in December 1956, and the project was placed in full flood control operation in February 1964. There are numerous areas along the shoreline where private property is subject to flooding and erosion as a result of the construction and operation. Erosion problems in numerous subdivisions bordering the lake were studied in 1989 and 1993. At this time, it is estimated that there are approximately 22 miles of shoreline in need of attention. Estimated costs for repair is approximately $15 million.

Local cooperation. Fully complied with.

Operations and results during fiscal year. Customer-funded replacement of hydropower intake gates were completed at $774,000. Congressional add funds and O&M funds were expended for erosion repair at $445,000. Routine operation and maintenance continued.

50. FORT GIBSON LAKE, OK

Location. On the Grand (Neosho) River at river mile 7.7, about 5 miles north of Fort Gibson, in Muskogee County, OK. (See Fort Gibson Dam, OK, Geological Survey map, scale 1:24,000.)

Existing project. For a description of the completed improvement, see page 604 of the Annual Report for 1969. Construction began in March 1942, but was held in abeyance during World War II. Construction resumed in May 1946, and was completed in June 1950. The fourth generator was installed and the project placed in full operation in September 1953.

Local cooperation. Fully complied with.

Operations and results during fiscal year. Routine operation and maintenance continued.

51. KEYSTONE LAKE, OK

Location. On the Arkansas River at river mile 538.8, near Sand Springs, OK, and about 15 miles west of Tulsa, OK. (See Keystone Dam, OK, Geological Survey map, scale 1:24,000.)

Existing project. For a description of the completed improvement, see page 589 of the Annual Report for 1970. Construction began in January 1957, and the project was placed in flood control operation in September 1964.

Local cooperation. Fully complied with.

Operations and results during fiscal year. Customer-funded replacement of the hydropower excavation system at $692,000 and repair of the penstock pipes at $786,000. Routine operation and maintenance continued.

52. LAKE TEXOMA (DENISON DAM), OK AND TX

Location. On the Red River at river mile 725.9, about 5 miles northwest of Denison, TX. (See Denison Dam, OK, Geological Survey map, scale 1:24,000.)

Existing project. For a description of the completed improvement, see page 603 of the Annual Report for 1969. Lake Texoma is operated as a unit of a coordinated lake system for flood control in the Red River Basin. Construction started in August 1939, and was completed in February 1944. Commercial power generation was started in March 1945. Authorized work is complete except for installation of the third, fourth, and fifth power units.

Local cooperation. Fully complied with.

Operations and results during fiscal year. WRDA 99 mandated the sale, at fair market value, of approximately 1,580 acres of project lands to the state of Oklahoma's Department of Tourism. The administrative costs of the land transfer must be paid by the state of Oklahoma. An estimate of administrative costs, $55,000, was provided to Oklahoma Land Commission, acting on behalf of Oklahoma Tourism. To date, the State has not made administrative funds available to initiate sale of project lands. Routine operation and maintenance continued. Gate seals were replaced at a cost of $522,000 and road repairs were completed for $605,000.

53. ROBERT S. KERR LOCK AND DAM AND RESERVOIR, OK

Location. On the Arkansas River at navigation mile 336.2, about 8 miles south of Sallisaw, in LeFlore County, OK. (See Robert S. Kerr, OK, Geological Survey map, scale 1:24,000.)

Existing project. For a description of the completed improvement, see page 19-21 of the Annual Report for 1972. The Robert S. Kerr Lock and Dam and Reservoir is a unit of the McClellan-Kerr Arkansas River Navigation System. Construction began in April 1964, and closure was completed in October 1970. The lock and dam became operational for navigation in December 1970. Generating units 1, 2, 3, and 4 were placed in operation in October, July, September, and November 1971, respectively.

Local cooperation. See section 1 of this report.

Terminal facilities. Five sites have been developed for handling coal, grain, construction aggregates, and miscellaneous cargo. The facilities are considered adequate for present traffic.

Operations and results during fiscal year. Customer-funded hydropower replaced the excavation system at $1.86 million and repaired the intake gate construction for $385,000. Routine operation and maintenance continued.

54. TENKILLER FERRY LAKE, OK

Location. On the Illinois River at river mile 12.8, 7 miles northeast of Gore, in Sequoyah County, OK. (See Gore, OK, Geological Survey map, scale 1:24,000.)

Existing project. For a description of the completed improvement, see page 606 of the Annual Report for 1969. Construction began in June 1947, and was completed in July 1953.

Local cooperation. Fully complied with.

Operations and results during fiscal year. Routine operation and maintenance continued. A project to build an auxiliary spillway and to modify the existing spillway was authorized February 22, 1994, by the Acting Assistant Secretary of the Army, under the Dam Safety Assurance Program. Phase I was awarded in FY 00. Phase II will be awarded in FY 04. Project completion is scheduled for FY 06.

55. WEBBERS FALLS LOCK AND DAM, OK

Location. On the Arkansas River at navigation mile 366.6, about 5 miles northwest of Webbers Falls, in Muskogee County, OK. (See Webbers Falls, OK, Geological Survey map, scale 1:24,000.)

Existing project. For a description of the completed improvement, see page 19-23 of the Annual Report for 1977. The Webbers Falls Lock and Dam is a unit of the McClellan-Kerr Arkansas River Navigation System. In January 1965, construction began and the project was placed in useful operation in November 1970. The lock and dam became operational for navigation in December 1970. Generating units 1, 2, and 3 were placed in operation in August, September, and November 1973, respectively.

Local cooperation. See section 1 of this report.

Terminal facilities. Facilities at the Port of Muskogee include: a cargo pier, mooring dolphins, warehouse, terminal building, and fuel facility built by the Muskogee City-County Port Authority; a liquid cargo loading facility and a steel unloading facility built by Frontier Steel Company; grain holding facilities built by Conagra, Inc.; and a general-purpose private dock built by the Fort Howard Paper Company. The facilities are considered adequate for present traffic.

Operations and results during fiscal year. Routine operation and maintenance continued. Customer-funded hydropower repairs were made on the exciter system at $919,000.

Environmental Infrastructure

56. LAWTON, OK

Location. Lawton is located approximately 80 miles southwest of Oklahoma City on Highway 44.

Existing project. The project consists of demolition of an existing, but abandoned, wastewater treatment facility.

Local cooperation. Cost sharing on this project will be 75% Federal and 25% non-Federal. The city will be responsible for provision of LERRD and cash as necessary.

Operations and results during fiscal year. In FY04, this project will be scoped and design undertaken. Additionally, NEPA coordination will begin. If appropriate, a Project Cooperation Agreement will be drafted.

57. YUKON, OK

Location. Yukon is located immediately adjacent to Oklahoma City's western boundary on Highway 66.

Existing project. The project consists of constructing approximately 9 miles of domestic water line connecting the city's well field to the city water system. Also to be constructed is a one million gallon storage facility.

Local cooperation. Cost sharing on this project will be 75% Federal and 25% non-Federal. The city will be responsible for provision of LERRD and cash as necessary.

Operations and results during fiscal year. In FY04, this project will be scoped and design undertaken. Additionally, NEPA coordination will begin. If appropriate, a Project Cooperation Agreement will be drafted.

General Investigations

58. SURVEYS

Fiscal year cost was $723,955, which included one flood damage prevention study, one reconnaissance study; eight special studies, one watershed comprehensive study; miscellaneous activities - special investigations, and Interagency Water Resources Development; North American Waterfowl Management Plan, Coordination with other Agencies, to include nine planning assistance to states studies. Table 38-K provides a specific list and respective fiscal year expenditures.

59. COLLECTION AND STUDY OF BASIC DATA

Fiscal year cost was $275,098, which includes floodplain management services. Table 38-K provides a specific list and respective fiscal year expenditures.

Table 38-A

COST AND FINANCIAL STATEMENT

See Section in Text	Project	Funding	FY 00	FY 01	FY 02	FY 03	Total Cost To Sep. 30, 2003[1]
1.	McClellan-Kerr Arkansas	New Work					
	River Navigation System,	Approp	-	-	-	-	130,936,638[2]
	OK, (Tulsa District Portion)	Cost	-	-	-	-	130,936,638[2]
		Maint					
		Approp	3,761,500	4,612,634	3,656,600	3,901,050	185,525,046
		Cost	3,727,639	4,621,133	3,673,947	3,909,747	185,514,833
3.	Arcadia Lake, OK	New Work					
		Approp	-	-	-	-	82,965,900
		Cost	-	-	-	-	82,958,217
		Maint					
		Approp	444,500	363,303	331,660	270,000	5,657,045
		Cost	442,653	363,852	330,229	272,425	4,846,671
4.	Arkansas City, KS	New Work					
		Approp	1,226,279	6,021,000	3,555,000	3,386,000	19,272,279
		Cost	1,354,661	5,928,701	3,450,223	3,485,188	19,145,930
	(Contributed Funds)	Contrib.	223,000	-	275,000	446,000	1,209,000
		Cost	12,437	100,397	370,695	721,000	1,204,529
5.	Arkansas-Red River	New Work					
	Basins Chloride Control,	Approp	-	-	-	-	25,705,208
	KS, OK, and TX	Cost	-	-	-	-	25,705,208
		Maint					
		Approp	-	-	-	-	2,316,354
		Cost	-	-	-	-	2,316,354
5a.	Area V,	New Work					
	Estelline Springs, TX	Approp	-	-	-	-	300,028
		Cost	-	-	-	-	300,028
		Maint					
		Approp	1,200	-22	-	-	158,635
		Cost	1,100	100	-	-	158,576
5b.	Area VIII, TX	New Work					
		Approp	-	-	-	-	46,682,242
		Cost	-	-	-	-	46,671,992
		Maint					
		Approp	1,311,000	1,389,118	1,270,877	1,225,900	17,220,243
		Cost	1,304,043	1,393,675	1,270,846	1,228,185	17,214,075

Table 38-A

COST AND FINANCIAL STATEMENT

See Section in Text	Project	Funding	FY 00	FY 01	FY 02	FY 03	Total Cost To Sep. 30, 2003[1]
5c.	Red River Basin Chloride Control, TX & OK	New Work					
		Approp	1,350,000	1,410,005	1,453,000	1,024,000	34,605,805
		Cost	1,561,098	1,554,259	1,924,234	1,132,168	34,429,260
6.	Birch Lake, OK	New Work					
		Approp	-	-	-	-	13,549,170
		Cost	-	-	-	-	13,549,170
		Maint					
		Approp	495,500	461,668	549,198	366,713	14,929,345
		Cost	494,938	462,134	547,574	368,386	14,929,298
7.	Bowie County Levee, TX	New Work					
		Approp	-	898,000	500,000	3,977,000	7,195,000
		Cost	12,245	68,767	369,294	87,734	2,331,632
8.	Candy Lake, OK	New Work					
		Approp	-	-	-	-	4,927,922
		Cost	-	-	-	-	4,927,922
		Maint					
		Approp	4,300	144,639	-2,100	160,700	525,109
		Cost	4,258	79,789	62,754	160,203	524,501
9.	Canton Lake, OK	New Work					
		Approp	-	-	750,000	1,571,000	13,530,834[11]
		Cost	-	-	40,304	1,849,003	13,099,141[11]
		Maint					
		Approp	1,938,000	2,283,689	2,213,105	3,776,700	43,687,762
		Cost	1,933,114	2,071,657	2,345,792	3,860,393	43,680,616
10.	Copan Lake, OK	New Work					
		Approp	-	-	-	-	83,800,814
		Cost	-	-	-	-	83,799,189
		Maint					
		Approp	713,700	982,230	1,156,296	1,365,568	16,175,573
		Cost	718,401	828,670	996,852	1,946,550	16,172,612
11.	Council Grove Lake, KS	New Work					
		Approp	-	-	-	-	11,810,509
		Cost	-	-	-	-	11,810,509
		Maint					
		Approp	1,939,500	1,170,626	1,141,491	1,572,658	25,787,535
		Cost	1,941,271	1,169,987	1,132,250	1,578,191	25,780,984

Table 38-A

COST AND FINANCIAL STATEMENT

See Section in Text	Project	Funding	FY 00	FY 01	FY 02	FY 03	Total Cost To Sep. 30, 2003[1]
12.	El Dorado Lake, KS	New Work					
		Approp	-	-	-	-	92,413,349
		Cost	-	-	-	-	92,413,343
		Maint					
		Approp	413,000	428,953	1,374,259	-525,550	8,669,712
		Cost	410,488	431,436	410,264	433,507	8,665,250
13.	Elk City Lake, KS	New Work					
		Approp	-	-	-	-	19,052,990
		Cost	-	-	-	-	19,052,990
		Maint					
		Approp	542,500	491,835	552,194	392,067	17,501,346
		Cost	540,154	495,728	555,276	391,814	17,498,603
14.	Fall River Lake, KS	New Work					
	(Federal)	Approp	-	-	-	-	10,550,873
		Cost	-	-	-	-	10,550,873
		Maint					
		Approp	1,255,300	833,727	856,613	958,724	21,979,306
		Cost	1,249,267	834,193	857,320	958,931	21,967,990
	(Contrib. Funds)	Contrib.	-	-	-	-	6,120
		Cost	-	-	-	-	6,120
15.	Fort Supply Lake, OK	New Work					
		Approp	-	-	-	-	7,723,134
		Cost	-	-	-	-	7,723,134
		Maint					
		Approp	1,043,900	1,411,399	850,662	758,262	22,553,021
		Cost	1,039,928	908,878	1,340,655	767,718	22,544,319
16.	Fry Creeks, Bixby, OK	New Work					
		Approp	331,000	314,940	53,000	-11,000	10,552,508
		Cost	299,002	458,769	50,100	3,645	10,547,762
	(Contrib. Funds)	Contrib.	-	-	-	-	640,000
		Cost	-	-	-	-	640,000
17.	Great Bend, KS	New Work					
	(Federal)	Approp	-	-	-	-	19,968,400
		Cost	-	-	-	-	19,968,073
	(Contrib. Funds)	Contrib.	-	-	-	-	4,259,254
		Cost	-	-	-	-	4,259,254

Table 38-A

COST AND FINANCIAL STATEMENT

See Section in Text	Project	Funding	FY 00	FY 01	FY 02	FY 03	Total Cost To Sep. 30, 2003[1]
18.	Great Salt Plains Lake, OK	New Work					
		Approp	-	-	-	-	4,626,270
		Cost	-	-	-	-	4,626,270
		Maint					
		Approp	153,000	176,051	207,800	135,200	8,733,398
		Cost	152,074	177,334	206,829	136,296	8,733,335
19.	Halstead, KS	New Work					
	(Federal)	Approp	137,000	-	-	-34,000	8,449,000
		Cost	106,110	-	120	-	8,428,456
	(Contributed Funds)	Contrib.	-	-	-	-	940,000
		Cost	-	-	-	-	924,537
20.	Heyburn Lake and	New Work					
	Polecat Creek, OK	Approp	-	-	-	-	2,560,572
		Cost	-	-	-	-	2,560,572
		Maint					
		Approp	599,000	576,202	515,514	396,500	15,764,752
		Cost	597,959	579,597	489,680	424,207	15,763,541
21.	Hugo Lake, OK	New Work					
		Approp	-	-	-	-	41,211,562
		Cost	-	-	-	-	41,211,562
		Maint					
		Approp	1,557,300	1,832,276	1,843,268	1,427,577	37,507,601
		Cost	1,572,140	1,693,801	1,953,926	1,446,860	37,492,149
22.	Hulah Lake, OK	New Work					
		Approp	-	-	-	-	11,388,150
		Cost	-	-	-	-	11,388,150
		Maint					
		Approp	379,800	416,639	875,987	-26,491	13,602,717
		Cost	378,336	416,647	334,411	514,514	13,600,690
		Minor Rehab					
		Approp	-	-	-	-	135,718
		Cost	-	-	-	-	135,718
23.	John Redmond Dam	New Work					
	and Reservoir, KS	Approp	-	-	-	-	28,151,470
		Cost	-	-	-	-	28,151,470

Table 38-A

COST AND FINANCIAL STATEMENT

See Section in Text	Project	Funding	FY 00	FY 01	FY 02	FY 03	Total Cost To Sep. 30, 2003[1]
	John Redmond Dam	Maint					
	and Reservoir, KS (Cont'd)	Approp	2,250,800	1,340,208	1,238,835	798,759	36,709,769
		Cost	2,173,461	1,357,075	1,147,578	889,596	36,648,858
24.	Kaw Lake, OK	New Work					
	(Federal)	Approp	-	-	-	-	109,430,750
		Cost	-	-	-	-	109,430,750
		Maint					
		Approp	1,973,000	1,841,224	1,856,073	1,591,576	43,086,068
		Cost	2,004,185	1,839,741	1,855,504	1,600,350	43,078,063
	(Contributed Funds)	Contrib.	-	-	-	-	43,934
		Cost	-	-	-	-	43,934
25.	Lake Kemp, TX	New Work					
		Approp	-	-	-	-	7,637,702
		Cost	-	-	-	-	7,637,702
		Maint					
		Approp	132,900	199,368	308,600	83,300	4,154,669
		Cost	134,012	199,174	308,631	83,471	4,154,687
26.	Lake Wichita,	New Work					
	Holliday Creek, TX	Approp	58,212	-	-	-26,000	33,876,212
	(Federal)	Cost	1,300	10,533	7,544	1,739	33,865,116
	(Contributed Funds)	Contrib.	-	-	-	-	7,835,000
		Cost	-	-	-	-	7,835,000
27.	Marion Reservoir, KS	New Work					
		Approp	-	-	-	-	13,420,818
		Cost	-	-	-	-	13,420,818
		Maint					
		Approp	1,622,000	1,678,188	1,344,484	1,204,000	30,288,027
		Cost	1,608,056	1,688,126	1,343,896	1,207,722	30,287,065
		Minor Rehab					
		Approp	-	-	-	-	68,924
		Cost	-	-	-	-	68,924
28.	McGrath Creek,	New Work					
	Wichita Falls, TX	Approp	-13,491	-	-	-	8,538,349
	(Federal)	Cost	146,578	-	-	-	8,538,349
	(Contributed Funds)	Contrib.	-116,740	-	-	-	3,086,860
		Cost	-116,666	-	-	-	3,086,860

Table 38-A

COST AND FINANCIAL STATEMENT

See Section in Text	Project	Funding	FY 00	FY 01	FY 02	FY 03	Total Cost To Sep. 30, 2003[1]
29.	Mingo Creek, OK	New Work					
	(Federal)	Approp	2,790,000	810,000	-	-144,000	77,570,726
		Cost	3,957,236	1,672,839	81,762	-163,301	77,508,286
	(Contributed Funds)	Contrib.	-	-	-	-	16,253,400
		Cost	255,192	7,334	54,970	6,842	15,940,463
30.	Oologah Lake, OK	New Work					
		Approp	-	-	-	-	37,029,928[3]
		Cost	-	-	-	-	37,029,928[3]
		Maint					
		Approp	2,500,600	2,014,940	1,785,313	1,954,457	38,805,270
		Cost	2,354,285	1,981,374	1,959,640	1,944,451	38,789,619
31.	Optima Lake, OK	New Work					
		Approp	-	-	-	-	47,173,438
		Cost	-	-	-	-	47,173,438
		Maint					
		Approp	56,500	60,165	33,600	56,000	7,664,458
		Cost	56,483	60,089	33,706	55,756	7,664,189
32.	Parker Lake, OK	New Work					
		Approp	-	-	-	-	585,326
		Cost	-	-	-	-	584,973
33.	Pat Mayse Lake, TX	New Work					
		Approp	-	-	-	-	9,310,661
		Cost	-	-	-	-	9,310,661
		Maint					
		Approp	1,419,000	1,155,476	1,045,000	1,079,494	23,291,236
		Cost	1,414,598	1,031,774	1,172,166	1,067,060	23,307,855
34.	Pearson-Skubitz	New Work					
	Big Hill Lake, KS	Approp	-	-	-	-	16,879,166
		Cost	-	-	-	-	16,879,166
		Maint					
		Approp	1,629,000	982,590	855,597	739,728	18,548,443
		Cost	1,621,799	971,026	866,555	740,517	18,533,573
35.	Pine Creek Lake, OK	New Work					
		Approp	-	-	-	-	20,628,049
		Cost	-	-	-	-	20,628,049

Table 38-A

COST AND FINANCIAL STATEMENT

See Section in Text	Project	Funding	FY 00	FY 01	FY 02	FY 03	Total Cost To Sep. 30, 2003[1]
	Pine Creek Lake, OK	Maint					
	(Cont'd)	Approp	1,204,000	1,116,606	1,162,805	1,001,204	24,910,752
		Cost	1,202,771	1,108,172	1,165,391	1,004,528	24,906,407
36.	Sardis Lake, OK	New Work					
		Approp	-	-	-	-	68,518,439
		Cost	-	-	-	-	68,518,429
		Maint					
		Approp	857,000	976,570	835,730	739,547	16,641,468
		Cost	850,120	74,016	835,398	746,978	16,638,366
37.	Skiatook Lake, OK	New Work					
		Approp	318,000	563,000	6,067,000	2,476,000	116,157,738[10]
		Cost	363,350	705,676	5,963,460	2,579,052	116,149,840[10]
		Maint					
		Approp	1,319,000	1,309,964	1,241,036	1,172,017	20,107,455
		Cost	1,316,760	1,159,733	1,391,394	1,146,951	20,077,363
38.	Toronto Lake, KS	New Work					
		Approp	-	-	-	-	13,896,324
		Cost	-	-	-	-	13,896,324
		Maint					
		Approp	350,000	332,053	294,742	635,550	10,203,177
		Cost	359,068	333,891	293,915	635,858	10,202,617
39.	Tulsa & West Tulsa, OK	New Work					
	(Federal)	Approp	-	250,000	-	-106,000	1,569,000
		Cost	457,787	-4,991	143,361	8,556	1,564,812
	(Contributed Funds)	Contrib.	17,976	-	50,000	-	542,976
		Cost	230,433	7,304	54,157	4,062	477,763
		Minor Rehab					
		Approp	-	-	-	-	1,118,111
		Cost	-	-	-	-	1,110,444
40.	Waurika Lake, OK	New Work					
		Approp	-	-	-	-	69,729,461
		Cost	-	-	-	-	69,729,281
		Maint					
		Approp	1,392,000	2,080,801	1,755,020	1,248,655	28,372,338
		Cost	1,368,572	1,847,177	2,001,504	1,254,026	28,366,787

Table 38-A

COST AND FINANCIAL STATEMENT

See Section in Text	Project	Funding	FY 00	FY 01	FY 02	FY 03	Total Cost To Sep. 30, 2003[1]
41.	Winfield, KS	New Work					
		Approp	532,000	-	-	-	8,186,617
		Cost	1,003,158	107,110	81,380	22,329	8,182,531
	(Contributed Funds)	Contrib.	-10,540	-	-	-	54,460
		Cost	54,460	-	-	-	54,460
42.	Wister Lake, OK	New Work					
		Approp	-	-	-	-	10,690,751
		Cost	-	-	-	-	10,687,439
		Maint					
		Approp	522,000	1,642,027	848,533	1,172,100	19,268,184
		Cost	512,889	1,405,810	1,059,323	1,182,828	19,243,988
		Major Rehabilitation					
		Approp	-	-	-	-	11,131,529
		Cost	-	-	-	-	11,131,529
48.	Broken Bow Lake, OK	New Work					
		Approp	-	-	-	-	41,222,692
		Cost	-	-	-	-	41,222,692
		Maint					
		Approp	1,472,000	1,569,462	1,326,436	1,444,800	38,233,564
		Cost	1,471,041	1,516,022	1,377,812	1,433,581	38,215,036
	(Contributed Funds)	Maint					
		Approp	-	265,000	-	43,234	308,234
		Cost	-	715	12,725	194,794	208,234
49.	Eufaula Lake, OK	New Work					
		Approp	-	-	-	-	123,795,907[4]
		Cost	-	-	-	-	123,795,907[4]
	(Contributed Funds)	Contrib.	-	-	841,750	100,000	1,197,130[12]
		Cost	-	-	68,395	872,948	1,195,523[12]
		Maint					
		Approp	5,983,500	7,366,431	5,499,826	5,214,351	106,587,691
		Cost	5,982,694	6,025,815	6,816,899	5,234,169	106,554,336
50.	Fort Gibson Lake, OK	New Work					
		Approp	-	-	-	-	43,821,405[5]
		Cost	-	-	-	-	43,821,405[5]

Table 38-A

COST AND FINANCIAL STATEMENT

See Section in Text	Project	Funding	FY 00	FY 01	FY 02	FY 03	Total Cost To Sep. 30, 2003[1]
	Fort Gibson Lake, OK	Maint					
	(Cont'd)	Approp	4,112,800	6,153,097	3,908,653	4,422,388	87,733,550
		Cost	4,084,774	6,056,839	4,002,613	4,400,687	87,640,818
	(Contributed Funds)	Contrib.	-	-	726,750	-122,196	1,102,554
		Cost	-	4,985	49,683	507,716	1,048,348
51.	Keystone Lake, OK	New Work					
		Approp	-	-	-	-	123,171,173[6]
		Cost	-	-	-	-	123,171,173[6]
		Maint					
		Approp	4,822,000	5,791,162	4,433,952	4,066,568	84,322,687
		Cost	4,814,771	5,223,541	4,600,664	3,475,567	83,297,282
	(Contributed Funds)	Contrib.	-	660,000	206,750	845,000	1,711,750
		Cost	-	-	92,489	886,515	979,004
52.	Lake Texoma	New Work					
	(Denison Dam),	Approp	-	-	-	-	68,168,960[7]
	OK and TX	Cost	-	-	-	-	68,157,390[7]
		Maint					
		Approp	7,716,000	8,681,636	5,804,151	7,327,440	148,866,635
		Cost	7,740,970	6,548,892	7,949,426	7,259,058	148,756,299
		Minor Rehabilitation					
		Approp	-	-	-	-	46,237
		Cost	-	-	-	-	46,237
	(Contributed Funds)	Contrib.	-	-	300,000	58,167	359,367
		Cost	-	-	45,321	302,564	347,885
53.	Robert S. Kerr Lock and	New Work					
	Dam and Reservoir, OK	Approp	-	-	-	-	94,578,237
		Cost	-	-	-	-	94,578,237
		Maint					
		Approp	4,022,000	4,807,396	5,618,000	5,156,828	91,695,269
		Cost	4,019,578	4,175,229	5,810,188	5,597,038	91,667,289
	(Contributed Funds)	Contrib.	-	-	817,000	75,000	892,000
		Cost	-	-	252,364	1,654,611	1,906,975

Table 38-A

COST AND FINANCIAL STATEMENT

See Section in Text	Project	Funding	FY 00	FY 01	FY 02	FY 03	Total Cost To Sep. 30, 2003[1]
54.	Tenkiller Ferry Lake, OK	New Work					
		Approp	4,889,000	7,586,500	5,406,000	6,660,000	52,205,220[8]
		Cost	5,439,572	7,633,779	5,427,945	6,712,593	51,987,367[8]
		Maint					
		Approp	4,258,000	4,096,566	3,264,696	3,141,348	76,566,430
		Cost	4,209,693	3,719,833	3,658,226	3,154,723	76,548,205
(Contributed Funds)		Contrib.	-	-	106,750	-	107,350
		Cost	-	-	73,758	23,600	97,358
55.	Webbers Falls	New Work					
	Lock & Dam, OK	Approp	-	-	-	-	86,107,967
		Cost	-	-	-	-	86,107,967
		Maint					
		Approp	4,803,000	3,657,610	3,636,000	3,362,984	82,001,418
		Cost	4,779,826	3,677,750	3,643,603	3,381,388	81,980,728
	(Contributed Funds)	Maint					
		Approp	432,600	1,053,000	150,000	457,370	2,092,970
		Cost	432,600	48,362	168,785	565,868	1,215,615
56.	Lawton, OK	New Work					
		Approp	-	-	-	55,000	55,000
		Cost	-	-	-	2,084	2,084
57.	Yukon, OKs	New Work					
		Approp	-	-	-	55,000	55,000
		Cost	-	-	-	2,127	2,127

1. Includes $2,077,900 expended by the Jobs Act (P.L. 98-8 dated, March 24, 1983) for projects listed in Tables 29-M of the FY 85 Annual Report.
2. Includes $12,700,038 for Bank Stabilization and Channel Rectification.
3. Excludes $81,460 contributed funds and $1,348,816 special funds.
4. Excludes $299,803 contributed funds and $13,211,728 special funds.
5. Excludes $134,919 contributed funds. Includes $49,581 Public Works acceleration funds; and $1,058,500 Hydropower.
6. Excludes $5,366,231 special funds.
7. Includes $433,549 Emergency Relief funds. Exchange $1,256,068 from special contributed funds.
8. Excludes $946 contributed funds. Includes $39,999 Public Works acceleration funds. Includes an appropriation of $21,527,500 for Dam Safety and $21,257,054 in Dam Safety expenditures.
9. The cost for Grand Lake O' the Cherokees has been added to the amount reported in paragraph 45, Scheduling Flood Control Reservoir Operations.
10. Includes an appropriation for Dam Safety of $7,413,000, and Dam Safety expenditures of $7,302,050.
11. Includes an appropriation for Dam Safety of $750,000, and Dam Safety expenditures of $40,304.
12. Contributed funds for Muddy Creek bridge replacement.

TABLE 38-B AUTHORIZING LEGISLATION

See Section In Text	Date of Authorizing Act	Project and Work Authorized	Documents
1.	July 24, 1946	McCLELLAN-KERR ARKANSAS RIVER NAVIGATION SYSTEM	HD 79-758 PL 79-525
	October 22, 1976	Big and Little Sallisaw Creeks Navigation Project	PL 94-587
	November 17, 1986	W.D. Mayo Hydropwer	PL 99-662
3.	December 31, 1970	ARCADIA LAKE	HD 91-299
	October 22, 1976	Changed water quality to water supply	PL 94-587
4.	November 17, 1986	ARKANSAS CITY	PL 99-662
5.		ARKANSAS-RED RIVER BASINS CHLORIDE CONTROL	
5a.	October 23, 1962	Authorized Area V (Estelline Springs)	SD 87-l07
5b.&5c.	November 7, 1966	Authorized Areas VII, VIII, and X	PL 89-789 SD 110
	December 31, 1970	Authorized Areas I, II-III, VI, IX, XIII, XIV, and XV	PL 91-6ll
	November 17, 1986	Authorized the Red River Basin and the Arkansas River Basin as separate projects with separate authority.	PL 99-662
6.	October 23, 1962	BIRCH LAKE	HD 87-563
7.	August 26, 1994	BOWIE COUNTY LEVEE	PL 103-316
8.	October 23, 1962	CANDY LAKE	HD 87-564
9.	June 28, 1938 July 24, l946 June 30, 1948	CANTON LAKE Approved Irrigation Storage Approved Water Supply Storage	HD 75-569
10.	October 23, 1962	COPAN LAKE	HD 87-563
11.	May l7, 1950	COUNCIL GROVE LAKE	HD 80-442
12.	October 27, 1965	EL DORADO LAKE	HD 89-232
13.	August 18, 1941	ELK CITY LAKE	HD 76-440
14.	August 18, 1941	FALL RIVER LAKE	HD 76-440
15.	June 22, 1936	FORT SUPPLY LAKE	HD 74-308
16.	November 17, 1986	FRY CREEKS	PL 99-662
17.	November 17, 1986	GREAT BEND	PL 99-662

TABLE 38-B AUTHORIZING LEGISLATION

See Section In Text	Date of Authorizing Act	Project and Work Authorized	Documents
18.	June 22, 1936	GREAT SALT PLAINS LAKE	HD 74-308
19.	November 17, 1986	HALSTEAD	PL 99-662
20.	July 24, 1946	HEYBURN LAKE AND POLECAT CREEK	HD 80-290
21.	July 24, 1946	HUGO LAKE	HD 79-602
22.	June 22, 1936	HULAH LAKE	HD 74-308
23.	May 17, 1950 February l5, 1958	JOHN REDMOND DAM AND RESERVOIR Authorized name change	HD 80-442 PL 85-327
24.	October 23, 1962	KAW LAKE	HD 87-143
25.	October 23, 1962	LAKE KEMP	HD 87-144
26.	November 17, 1986	LAKE WICHITA, HOLLIDAY CREEK	PL 99-662
27.	May 17, 1950 March 14, 1990	MARION RESERVOIR Authorized name change	HD 80-442 PL 101-253
28.	November 17, 1988	MCGRATH CREEK WICHITA FALLS, TX	PL 100-676
29.	November 17, 1986	MINGO CREEK	PL 99-662
30.	June 28, 1938	OOLOGAH LAKE	Committee Doc. No. 1, 75th Cong., 1st Session
31.	June 22, 1936	OPTIMA LAKE	HD 74-308
32.	November 17, 1986	PARKER LAKE	PL 99-662
33.	October 23, 1962	PAT MAYSE LAKE	HD 88-71
34.	October 23, 1962 November 10, 1978	PEARSON-SKUBITZ BIG HILL LAKE Authorized name change	HD 87-472 PL 95-265
35.	July 3, 1958	PINE CREEK LAKE	HD 85-170
36.	October 23, 1962 December 4, 1981	SARDIS LAKE Authorized name change	SD 87-145 PL 97-88
37.	October 23, 1962	SKIATOOK LAKE	HD 87-563
38.	August 18, 1941	TORONTO LAKE	HD 76-440 PL 77-228

TABLE 38-B AUTHORIZING LEGISLATION

See Section In Text	Date of Authorizing Act	Project and Work Authorized	Documents
39.	August 18, 1941	TULSA & WEST TULSA, OK	PL 77-228
40.	December 30, 1963	WAURIKA LAKE	SD 88-33 PL 88-253
41.	October 27, 1965	WINFIELD	PL 89-298
42.	June 28, 1938	WISTER LAKE	Committee Doc. No. 1, 75th Cong., 1st Session
	July 30, 1983	Changed conservation pool elevation	PL 98-63
	October 12, 1996	Increase permanent pool level	PL 104-303
48.	July 3, 1958	BROKEN BOW LAKE	HD 85-170
	October 23, 1962		SD 87-137
	October 12, 1996	Reallocation of water supply storage	PL 104-303
49.	July 24, 1946	EUFAULA LAKE	HD 79-758
	July 16,1984	Authorized Piney Creek and Muddy Creek bridge replacement	PL 98-360
	November 17, 1986	Authorized cost sharing	PL99-662
50.	August 18, 1941	FORT GIBSON LAKE	HD 76-107
	July 24, 1946	Incorporated into the multiple-purpose plan for the Arkansas River Basin	PL 76-228
	November 17, 1986	Added hydropower units 5 & 6	PL 99-662
51.	May 17, 1950	KEYSTONE LAKE	SD 81-07
52.		LAKE TEXOMA (Denison Dam)	
	June 28, 1938	Flood control and power	HD 75-541
	October 17, 1940	Navigation and regulating flows	PL 76-868
	Sepember 30, 1944	Authorized name	PL 78-454
	August 14, 1953	Water supply	PL 83-273
	November 17, 1986	Recreation	PL 99-662
53.	July 24, 1946	ROBERT S. KERR LOCK AND DAM AND RESERVOIR	HD 79-758
	July 8, 1963	Authorized name change	PL 88-62
54.	June 28, 1938	TENKILLER FERRY LAKE	Committee Doc. No. 1, 75th Cong., 1st Sess.
55.	July 24, 1946	WEBBERS FALLS LOCK AND DAM	HD 79-758 Cong., 1st Sess.
56.	October 31, 1992	LAWTON, OK	PL 102-580
57.	October 31, 1992	YUKON, OK	PL 102-580

TABLE 38-C OTHER AUTHORIZED NAVIGATION PROJECTS

Project	Status	For Last Full Report See Annual Report for	Cost to September 30, 2003 Construction	Cost to September 30, 2003 Operation and Maintenance
Big and Little Sallisaw Navigation Project	Inactive	-	-	3,163
Poteau River Navigation Project, OK and AR	Complete	1983	536,952	-
Red River from Fulton, AR, to Mouth of Washita River	Complete	1924	378,574	182,157

TABLE 38-E OTHER AUTHORIZED FLOOD CONTROL PROJECTS

Project	For Last Full Report See Annual Report For	Cost to September 30, 2003 Construction	Cost to September 30, 2003 Operation and Maintenance
Augusta LPP, KS[1,2]	1938		84,217
Boswell Lake, OK[3]	1952	-	-
Cherry and Red Fork Creeks LPP, OK[2]	1970	261,448	-
Crutcho Creek LPP, OK[3]	1972	213,016	-
Dodge City LPP, KS[2]	-	-	-
Enid LPP, OK[2]	1963	743,612	14,599
Flat Rock and Valley View Creeks LPP, Tulsa, OK[2, 4]	1975	1,741,000	-
Florence LPP, KS[2]	1965	369,782	-
Hutchinson LPP, KS[2]	1956	3,497,718	-
Iola LPP, KS[2]	1939	22,290	-
Jenks LPP, OK[2]	1950	344,797	-
Joe Creek LPP, OK[2]	-	308,041	-
Larned LPP, KS[2]	-	-	-
Lukfata Lake, OK[3]	1983	1,424,685	-
Marion, KS	1988	5,488,618	
Oklahoma City LPP, OK[2]	1960	8,047,512	-
Red River Bank Stabilization Below Denison, OK and TX[2, 6]	1953	1,177,537	-
Red River Emergency Bank Protection	-	400,000	-
Sand Creek LPP, KS[2]	1968	545,996	-
Sand Lake, OK[3]	1963	-	-
Shidler Lake, OK[3]	1983	568,191	-
Tulsa and West Tulsa LPP, OK[2]	1954	3,592,432	-
Turtle Creek LPP, Yukon, OK[3]	1975	144,853	-
West Branch Chisholm Creek LPP, KS[2]	1965	364,200	-
Wichita and Valley Center LPP, KS[2]	1960	12,247,379	-

LPP - Local Protection Project.

1. Completed by Kansas Works Progress Administration.
2. Complete.
3. Deferred.
4. Federal cost limited to $1,000,000.
5. Active with no current year expenditures.
6. FY 99 – FY 02 additional funds of $955,432 were received for construction.

TABLE 38-G DEAUTHORIZED PROJECTS

Project	For Last Full Report See Annual Report for	Date and Authority	Federal Funds Expended	Contributed Funds Expended
Arcadia Lake (Uncompleted Recreation), OK		April 16, 2002 Public Law 99-662	0	0
Ark-Red Basins Chloride Control, Ark Basin, OK		April 16, 2002 Public Law 99-662	14,300,000	0
Big & Little Sallisaw Creeks, OK		April 16, 2002 Public Law 99-662	167,000	0
Big Pine Lake, TX	1984	November 1, 1997 Public Law 99-662	1,701,670	0
Boswell Lake, OK		April 16, 2002 Public Law 99-662	0	0
Candy Lake, OK	1996	July 9, 1995 Public Law 99-662	4,950,000	0
Cedar Point Lake, KS	1980	November 17,1986 Public Law 99-662	0	0
Cow Creek, Hutchinson, KS	1971	November 17, 1986 Public Law 99-662	363,720	0
Crutcho Creek, Oklahoma County, OK		April 16, 2002 Public Law 99-662	0	0
Denison Dam Power Unit 3, OK		April 16, 2002 Public Law 99-662	0	0
Douglass Lake, KS		April 16, 2002 Public Law 99-662	668,000	0
El Dorado, West Branch, Walnut River, KS	1977	November 17, 1986 Public Law 99-662	92,319	0
Lukfata Lake, OK		April 16, 2002 Public Law 99-662	0	0
Neodesha Lake, KS	1952	November 17, 1986 Public Law 99-662	97,910	0
Lake Texoma Perimeter Access Roads, Texas & Oklahoma		July, 9, 1995 Public Law 99-662	13,200	0
Sand Lake, OK		April 5, 1999 Public Law 99-662	0	0
Shidler Lake, OK		May 1, 1997 Public Law 99-662	568,000	0
Towanda Lake, KS	1981	November 17, 1986 Public Law 99-662	393,361	0
Tuskahoma Lake, OK	1963	July 19, 1992 Public Law 99-662	0	0
Upper Little Arkansas River Watershed, KS		April 16, 2002 Public Law 99-662	1,266,000	0

TABLE 38-H ARKANSAS RIVER BASIN MULTIPLE-PUPOSE PLAN (See Section 1 of Text)

Feature	River	River Mile[1]	Nearest Town
LAKES			
Canton	North Canadian	394.3	Canton, OK
Elk City	Elk River	8.7	Elk City, KS
Eufaula	Canadian	27.0	Eufaula, OK
Fall River	Fall River	54.2	Fall River, KS
Fort Gibson	Grand (Neosho)	7.7	Fort Gibson, OK
Grand Lake O' the Cherokees	Grand (Neosho)	77.0	Disney, OK
Keystone	Arkansas	538.8	Sand Springs, OK
Lake Hudson (Markham Ferry)	Grand (Neosho)	47.4	Locust Grove, OK
Neodesha	Verdigris	222.8	Neodesha, KS
Oologah	Verdigris	90.2	Oologah, OK
Tenkiller Ferry	Illinois	12.8	Gore, OK
Toronto	Verdigris	271.5	Toronto, KS
Wister	Poteau	60.9	Wister, OK
McCLELLAN-KERR ARKANSAS RIVER NAVIGATION SYSTEM, OK			
(Tulsa District Portion)			
Bank Stabilization and Channel Rectification	Verdigris and Arkansas	N/A[2]	Fort Smith, AR, to Catoosa, OK
Chouteau Lock and Dam (17), OK	Verdigris	401.5	Okay, OK
Newt Graham Lock and Dam (18), OK	Verdigris	421.6	Inola, OK
Robert S. Kerr Lock and Dam (15), OK	Arkansas	339.0	Sallisaw, OK
Robert S. Kerr Marine Terminal, OK	Arkansas	336.2	Cowlington, OK
Sans Bois Navigation Channel, OK	Sans Bois Creek	341.0	Keota, OK
W.D. Mayo Lock and Dam (14), OK	Arkansas	319.6	Redland, OK
Webbers Falls Lock and Dam (16), OK	Arkansas	366.6	Gore, OK

1. On the McClellan-Kerr Arkansas River Navigation System, these are navigation miles.
2. As required for a channel 9 feet deep.

TABLE 38-I INSPECTION OF COMPLETED LOCAL FLOOD PROTECTION PROJECTS (See Section 44 of Text)

Projects Inspected in Fiscal Year	Inspection Date
Cherry/Red Fork Creeks, OK	November 2001
Deep Fork Channel Clearing	September 2001
Dodge City, KS	May 2001
Enid Diviersion Channel, OK	October 1999
Flat Rock/Valley View Creeks, OK	November 2001
Florence, KS	March 2002
Fry Creek, Bixby, OK	October 2002
Great Bend, KS	October 1999
Haikey Creek, OK	November 2001
Halstead, KS	November 2001
Hutchinson, KS	April 2003
Iola, KS	December 2001
Holliday Creek, Wichita Falls, TX	September 2003
Jenks, OK	June 2003
Joe Creek, OK	October 2002
Larned, KS	November 2001
Marion, KS	March 2002
Mingo Creek, OK	October 2002
North Canadian Waste Water Treatment Plant, OK	August 2000
Oklahoma City Floodway, OK	August 2000
Park City, KS	April 2002
Sand Creek, Newton, KS	November 2001
South Deer Creek, OK	September 2001
Tulsa and West Tulsa Levees, OK	October 2002
West Branch Chisholm Creek, KS	April 2003
Wichita/Valley Center, KS	April 2003
Winfield, KS	October 2002
Park City Levee, KS	May 2003

TABLE 38-J FLOOD CONTROL WORK UNDER SPECIAL AUTHORIZATION (See Section 47 of Text)

Study Identification/Name	Fiscal Year Cost
SMALL FLOOD CONTROL PROJECTS NOT SPECIFICALLY AUTHORIZED BY CONGRESS - Section 205 Coordination	
Section 205 Coordination	19,173
Bixby Creek, Bixby, OK	2,711,432
Lake Carl Blackwell, Stillwater, OK	263
Cowskin Creek, Wichita, KS	139,489
Whitewater River, Augusta, KS	-16,611
Wichita Falls, TX, Plum Creek	75,651
Willowwood Addition, Edmond, OK	1,849
Coon Creek, Kinsley, KS	57,439
Wolf Creek, Lawton, OK	55,141
TOTAL SMALL FLOOD CONTROL PROJECTS	3,043,826
EMERGENCY STREAMBANK AND SHORELINE PROTECTION (Section 14)	
Section 14 Coordination	16,040
County Road Bridge, Washita River Garvin	-8,236
U.S. 83 Bridge, Garden City, KS	4,455
Slover Street, Shawnee, OK	8,371
TOTAL EMERGENCY STREAMBANK AND SHORELINE PROTECTION	20,630
PROJECT MODIFICATION TO IMPROVE ENVIRONMENT (Section 1135)	
Section 1135 Coordination	8,511
Preliminary Restoration Plan	905
Fish Habitat Restoration, Eldorado, KS	11,932
Big Lake Ecosystem Restoration, OK	2,981
Eastern Avenue Bottomland Hardwoods Restoration, OK	2,275,373
Riverine Habitat Restoration, OK	2,556,253
Arkansas River Restoration, OK	3,087
Garden City, KS	110,948
Sand Creek, Newton, KS	178,513
TOTAL MODIFICATION TO IMPROVE ENVIRONMENT	5,148,503
AQUATIC ECOSYSTEM RESTORATION (SECTION 206)	
Section 206 Coordination	18,421
Byron Walker Wetlands, Kingman, KS	8,867
Aquatic Ecosystem Restoration, North Canadian River, OK	2,103,064
Arkansas River, Arkansas City, KS	14,433
Medicine Creek, Medicine Park, OK	7,283
Mineral Bayou, Durant, OK	47,862
Pryor Creek, OK	2,864
Meadow Lake Ecosystem Restoration, OK	33,111
TOTAL AQUATIC ECOSYSTEM RESTORATION	2,235,905

TABLE 38-K GENERAL INVESTIGATIONS
(See Sections 58 and 59 of Text)

Study Identification/Name	Fiscal Year Cost
SURVEYS	
Flood Damage Prevention Studies	
Reconnaissance Study	
Miami, OK and Vicinity	24,604
Bois D'Arc Creek, Bonham, TX	190
Special Studies	
Ecosystem Restortion Reconnaissance Studies	
Miami, OK and Vincinity Recon Study	108,027
Grand (Neosho) River Basin Study	47,028
Southest Oklahoma, OK	40
Oologah Lake Watershed, OK	224
Walnut & Whitewater Rivers Watershed, KS	2,100
Wister Lake Watershed, OK	22,988
Washita River Basin, OK	46,168
Mountain Fork Watershed Study, OK	4,520
Ecosyatem Restoration Feasibility Study	
Oologah Lake Watershed, OK	141,008
Walnut & Whitewater Rivers Watershed, KS	84,797
Wister Lake Watershed, OK	937
Watershed/Comprehensive Reconnaissance Study	
Spavinaw Creek, OK	18,799
Miscellaneous Activities	
Special Investigations	34,864
Interagency Water Resources Development	18,303
North American Waterfowl Management Plan	3,722
Coordination with Other Federal Agencies, States, and Non-Federal Interests	
Department of Agriculture, Soil Conservation Service (PL 83-566)	
Coop with Other Water Resource Development Agencies	12,363
Planning Assistance to States	
PAS-KS-Parsons Water Supply Study	1,954
Oklahoma, Mangum Lake	-5,090
Oklahoma, Lake Texoma Regional Sewer	25,528
Oklahoma, Kaw Reservoir Water Treatment	-7,678
Oklahoma, Arkansas River Channel Capacity, Phase II	666
Oklahoma, Oologah Water Quality Study	959
Oklahoma, Adair RWD #5	36,282
Oklahoma, Water Plan Update	91,667
Oklahoma, PAS-OK Arkansas River Coridor	8,986
TOTAL SURVEYS	723,955
COLLECTION AND STUDY OF BASIC DATA	
Flood Plain Management Services	83,301
NFPC	49,206
Quick Responses	31
SS-Pawnee Tribe Flood Proofing	1,223
SS-Flood Risk Assessment-Native America	54,938
SS-Community CBG Flood Evaluations	31,294
SS-Tulsa County Flood Mitigation Plan	484
SS-Avant, OK	80
SS-Blanchard, OK	101
SS-Riverine Flood Model	49

TABLE 38-K GENERAL INVESTIGATIONS (Cont.)
(See Sections 58 and 59 of Text)

Study Identification/Name	Fiscal Year Cost
SS-Florence, KS	591
SS-Stroud, OK	376
SS-Osage County, OK	446
SS-Towanda, KS	74
SS-Sand Springs, OK	189
SS-Apache County, OK	93
SS-Commerce, OK	1,364
SS-Edmond, OK	250
Technical Services General	51,009
TOTAL COLLECTION AND STUDY OF BASIC DATA	275,098

FORT WORTH, TX, DISTRICT

District includes that portion of Texas south of Red River drainage basin exclusive of drainage basin of Rio Grande and its tributaries above and including Pecos River; exclusive of drainage basins to all short streams arising in coastal plain of Texas and flowing into the Gulf of Mexico, including entire basins of Buffalo Bayou, San Jacinto, San Bernard, Lavaca, Navidad, Mission, and Arkansas Rivers; exclusive of lower basins of major streams flowing into the gulf as follows: Sabine River, Texas and Louisiana, downstream from U.S. Highway 190 crossing at Bon Wier, Texas; Neches River downstream from Town Bluff gauging station; Trinity River downstream from Texas State Highway 45 crossing at Riverside, Texas; Brazos River downstream from confluence with Navasota River; Colorado River downstream from gauging station at Austin; Guadalupe River downstream from confluence with San Marcos River; San Antonio River downstream from confluence with Escondido Creek; Nueces River downstream from confluence with Frio and Atascosa Rivers; and exclusive of Agua Dulce, San Fernando, and Olmos Creek basins draining into Baffin Bay; coastal area south thereof to Rio Grande and south to the northern boundaries of Newton, Jasper, Tyler, Polk, Trinity, Walker, Waller, Austin, Fayette, Gonzales, Karnes, Live Oak, Jim Hogg, Zapata; the northern and western boundaries of McMullan; and the western boundaries of Montgomery and Duval Counties, Texas. District also includes those portions of the Sulphur River and Cypress Creek Watershed located in the State of Texas; that portion of western Louisiana in Sabine River drainage basin upstream from U.S. Highway 190 crossing at Bon Wier, Texas.

IMPROVEMENTS

Navigation

1. TRINITY RIVER PROJECT, TX

The project authorized by the River and Harbor Act of 1965 (H. Doc 276,89th Cong., lst Sess.) consists of five major components: Multiple-Purpose Channel, Tennessee Colony Lake, Dallas Floodway Extension, West Fork Floodway and Water Conveyance Facilities. For the last full report on the project as authorized, see Annual Report of 1978. The project information present herein is based on the tentatively selected project plan presented in the Draft General Design Memorandum. The plan consists of three structural components: Dallas Floodway Extension, Tennessee Colony Lake, and Channel to Liberty in the lower basin.

Operations during fiscal year. Channel to Liberty and Tennessee Colony Lake have been dormant for several years due to lack of local support. The Dallas Floodway Extension has advanced to the construction stage, and is described in the Flood Control section.

CHANNEL TO LIBERTY:

Location. The Channel to Liberty begins at the Houston Ship Channel, crosses the bay area in an easterly direction to intersect the existing Double Bayou Channel, turns northward along the coastline to Wallisville Lake and then continues northward through the lake area along the course of the Trinity River to River Mile 45 above Liberty, Texas.

Existing project. See Galveston, Texas District Annual Report for existing project.

Proposed project. The navigation portion of the channel will have a width of 200 feet with a depth of 12 feet and will extend from the Houston Ship Channel in Galveston Bay to the port of Liberty, Texas. The flood control portion of the channel will have a bottom width of 200 feet with a depth of 30 feet, and will extend from Wallisville Lake to River Mile 45 above Liberty, Texas.

Local cooperation. Local interests are required to: (a) provide, without cost to the Federal Government, all lands, easements and rights-of-way required for construction, operation and maintenance of the project, (b) accomplish, without cost to the Federal Government, all relocations and alterations to existing improvements, other than highway bridges over new land cuts and railroad bridges required for the construction of the project, (c) maintain and operate the flood control portion of the channel upstream of Liberty, Texas, and (d) reimburse the Federal Government for one-half of the separable costs allocated to recreation and fish and wildlife enhancement.

TENNESSEE COLONY LAKE:

Location. The Tennessee Colony dam site is located at River Mile 341.7 on the Trinity River about 22 miles west of Palestine, Texas. The lake would extend into Freestone, Anderson, Henderson, and Navarro Counties, and would control a drainage area of 12,302 square miles.

Existing project. The plan of improvement provides for the construction of an earthfilled dam with a maximum height of 123 feet above the streambed and a total embankment length of 42,350 feet with a gated concrete spillway The lake will have a total controlled storage of 3,455,000 acre-feet and a water surface area of 114,400 acres at the top of the flood control pool and 68,100 acres at the top of the conservation pool. The total storage includes 2,269,500 acre-feet for flood control, 1,040,000 acre-feet for conservation, and 145,500 acre-feet for sediment reserve.

Local cooperation. Local interests are required to reimburse the Federal Government for costs allocated to water supply storage and one-half of the separable cost allocated to recreation and fish and wildlife enhancement.

Flood Control

2. AQUILLA LAKE, TX

Location. On Aquilla Creek in Hill County, Texas, with the dam at River Mile 23.3, about 6.8 miles southwest of Hillsboro, Texas, and about 24.0 miles north of Waco, Texas.

Existing project. For description of completed improvements and authorizing acts see Annual Report of 1984. Construction was started March 1977, and project was ready for beneficial use April 29, 1983. Estimated cost is $46,100,000.

Local cooperation. The Water Supply Act of 1958, as amended, and the Federal Water Project Recreation Act of 1965 and Section 221, Flood Control Act of 1970 apply. A contract with the

Brazos River Authority for water supply storage was approved by the Secretary of the Army, June 29, 1976. To date, the Authority has paid $1,244,908 toward principal and $317,597 to operation and maintenance.

Operations during fiscal year. Painted floodgates and gate liners along with routine operation and maintenance activities.

Benefits accrued to Aquilla Lake project: Accumulated flood damages prevented through FY 2003 were $25,594,100.

3. BARDWELL LAKE, TX.

Location. Dam is on Waxahachie Creek 5-river miles upstream from its confluence with Chambers Creek, a tributary of the Trinity River, and about 5 miles south of Ennis, Ellis County, Texas.

Existing project For a description of completed improvement and authorizing act see Annual Report of 1969. Construction of project was started August 1963 and completed for beneficial use in November 1965. Estimated cost of project is $12,941,000.

Local cooperation. Local interests must reimburse the Federal Government for costs allocated to increased water supply storage under the terms of the Water Supply Act of 1958. A contract was approved by the Secretary of the Army on June 24, 1963, and the Trinity River Authority, a State agency, agreed to fulfill all requirements of local cooperation. To date the authority has paid $1,998,543 toward principal and $2,795,657 toward annual cost of operation and maintenance of project, including cost of operating 10-foot conduit.

Operations during fiscal year. Completed embankment slope repair. Continued routine operation and maintenance activities.

Benefits accrued to Bardwell Lake project: Accumulated flood damages prevented through FY 2003 were $36,710,400.

4. BELTON LAKE, TX

Location. Dam is on Leon River about 16.7 miles above confluence of Leon and Lampasas Rivers and about 3 miles north of Belton, Texas.

Existing project. For a description of completed improvement and authorizing acts see Annual Report of 1962. Construction started June 1949 and project was ready for beneficial use in March 1954. Raising water supply pool: Construction started in July 1970 and the pool raise is complete. Estimated cost of project is $18,410,000.

Local cooperation. Section 2, Flood Control Act of 1938, applies. A contract with Brazos River Authority, a State agency, for remaining water supply storage in reservoir was approved by Secretary of the Army on January 15, 1958, at an estimated cost of $5,125,003. To date $2,197,647 has been paid. Under the contract Brazos River Authority must also pay annually 11.2 percent of actual annual cost of operation and maintenance. To date $3,841,634 has been paid. An interim contract with Brazos River Authority for emergency use of water supply storage in project was approved by Secretary of the Army on January 2,1957. Amount of $433,083 paid by authority on March 21, 1957 for use of these facilities was credited to interest and principal payable under formal water supply contract.

Operations during fiscal year. Constructed entrance complex at Live Oak. Park. Continued routine operation and maintenance activities.

Benefits accrued to Belton Lake project: Accumulated flood damages prevented through FY 2003 were $632,311,500.

5. BENBROOK LAKE, TX

Location. Dam is in Tarrant County, Texas, on Clear Fork of Trinity River 15 river miles upstream from its confluence with West Fork of Trinity River about 10 miles southwest of downtown Fort Worth, Texas.

Existing project. For description of completed improvement and authorizing acts see Annual Report of 1962. Construction of project was started May 1947 and ready for beneficial use in September 1952. Estimated cost of project is $14,544,000.

Local cooperation. Section 2, Flood Control Act of 1938, applies. No water supply storage is included in project. In 1956, Congress passed legislation enabling the city of Fort Worth to purchase conservation storage space in Benbrook Lake. Contracts have been negotiated with the city of Fort Worth and the Benbrook Water and Sewer

Authority for the use of portions of the navigation storage for water supply purposes until such storage is required for Trinity River Navigation. To date, $2,368,710 has been paid by the city of Fort Worth and $227,680 by Benbrook Water and Sewer Authority. A cost-sharing contract with the city of Benbrook for Recreation Development was approved by the Secretary of the Army May 20, 1977. To date, $27,315 has been paid.

Operations during fiscal year. Initiated Homeland Security improvements. Continued routine operation and maintenance activities.

Benefits accrued to system consisting of Benbrook Lake, Clear Fork and West Fork Floodways: Accumulated flood damages prevented through FY 2003 are estimated at $4,859,520,800.

6. CANYON LAKE, TX

Location. Dam is on Guadalupe River, 303 miles above its mouth, and about 12 miles northwest of New Braunfels, Comal County, Texas.

Existing project. For a description of completed improvement and authorizing act see Annual Report of 1969. Construction started April 1958 and project completed for beneficial use June 1964. Estimated cost of project is $21,732,000, including $1,400,000 contributed by local interests.

Hydropower: The Guadalupe-Blanco River Authority (GBRA) was licensed by the Federal Energy Regulatory Commission to construct a 6,070-kilowatt plant, which is located adjacent to the existing outlet channel. The project operates utilizing conservation releases, i.e., no change from the present operating regiment is anticipated. GBRA has an agreement with the Pedernales Electric Cooperative for sale of power. Construction of the hydropower was completed in 1989 with non-Federal funds.

Local cooperation. Local interests (Guadalupe Blanco River Authority) will utilize water impounded for water supply and streamflow regulation for development of electric power. In a formal contract approved by Chief of Engineers on October 24, 1957, Guadalupe-Blanco River Authority agreed to fulfill all requirements of local cooperation. Required contribution of $1,400,000 was made in full by Guadalupe-Blanco River Authority. The estimated cost of the water storage contract is about $9,000,000. To date, $3,677,165 has been paid. In addition $22,848 was contributed for installation and operation of reservoir leakage gages. Under the contract the authority must pay 34.8 percent of actual annual cost of operation and maintenance. To date, $3,086,940 has been paid.

Operations during fiscal year. Cleanup and repair from 2002 flood continued using routine Operations and Maintenance, General funds. Continued routine operation and maintenance activities.

Benefits accrued to Canyon Lake project: Accumulated flood damages prevented through FY 2003 were $430,208,900.

7. DALLAS FLOODWAY EXTENSION

Location. The Dallas Floodway is in the metropolitan city of Dallas, Dallas County, Texas.

Existing project. The project consists of a 3.7 mile long Chain of Wetlands with an average width of 600 feet, with the alignment being placed on the west Trinity River overbank; and Standard Project levee of protection levees protecting the Lamar Street, Rochester Park, and the Cadillac Heights area; a levee providing 500 year level of protection to the Central Waste Water Treatment Plant, plus 31 miles of linear recreation. During flooding, the upper and lower wetlands would convey floodwaters to outfalls east of IH-45 and north of Loop 12, respectively. Additionally, the wetlands would provide 123 acres of ecosystem restoration. Estimated Federal cost of this project is $104,300,000 (October 1998 price levels), and estimated cost to local interests is $50,100,000, a total for the project of $154,400,000. The River and Harbor Act of 1965 authorized the flood control portion of the project. Credits for flood protection works constructed by the non-Federal interest were authorized by the Water Resources Development Act of 1996, Section 351. The ecosystem restoration and recreation portions were authorized by the Water Resources Development Act of 1999, Section 356.

Local cooperation. On May 2, 1996, the citizens passed a bond election to pay for the non-Federal portion of the project. The draft Project Cooperation Agreement was approved by both parties in July 2001.

Operations during fiscal year. FY 2003 funds were used to complete the supplement to the EIS, continue plans and specifications development. The project is 5 percent complete, and is scheduled for completion in September 2010.

8. FERRELLS BRIDGE DAM - LAKE O' THE PINES, TX

Location. Dam is on Cypress Creek in Marion, Harrison, Upshur, Morris, Camp, and Titus Counties, Texas, 8 miles west of Jefferson, Texas.

Existing project. An earthfill dam 10,600 feet long and 77 feet high includes a 200-foot spillway with a capacity of 68,200 cubic feet per second. Reservoir controls runoff from 850 square miles of drainage area, and has a gross storage capacity of 842,100 acre-feet including 587,200 acre-feet flood control storage, 3,800 acre-feet conservation storage, and 251,000 acre-feet for municipal and industrial water supply. Reservoir extends 28 miles upstream. Project affords substantial flood protection of Cypress Creek Valley from dam site to confluence with Red River and, together with operation of other reservoirs proposed in Red River Basin, will provide flood protection along main stem of Red River below Denison Dam. Construction commenced in January 1955 and was completed June 1960. Estimated Federal cost of project is $17,231,700, including $4,349,200 for Code 711 and $399,739 accelerated Public Works fund. This project transferred to the Fort Worth District as of the end of FY 1979.

Local cooperation. None required.

Operations during fiscal year. Continued routine operation and maintenance activities.

Benefits accrued to Ferrells Bridge Dam-Lake O' The Pines project: Accumulated flood damages prevented through FY 2003 were $57,025,200.

9. GRAPEVINE LAKE, TX

Location. Dam is in Tarrant County, Texas, on Denton Creek, 11.7 river miles upstream from its confluence with Elm Fork of Trinity River and about 20 miles northwest of city of Dallas, Texas.

Existing project. For description of completed improvement and authorizing act, see Annual Report of 1962. Construction of project was started December 1947 and ready for beneficial use in July 1952. Estimated cost of project is $18,896,000, including $2,040,000 contributed by local interests. A contract for modification of Embankment and Spillway was awarded September 30, 1983 and completed Fiscal Year 1990. The improvements provided for spillway modification by construction of spillway chute and stilling basin and a berm on the downstream side of the main embankment.

Local cooperation. A contract with Dallas County Park Cities Water Control and Improvement District No. 2 for 50,000 acre-feet of water supply storage was approved by Secretary of the Army on March 21, 1955. Park Cities paid the required $607,000. A contract with city of Dallas for 85,000 acre-feet of water supply storage was approved by Secretary of the Army on March 17, 1954. Dallas paid the required $1,433,026. A contract with city of Grapevine, Texas, for 1,250 acre-feet of water supply storage was approved by Secretary of the Army on September 14, 1953, at an estimated cost of $22,654. A contract for Interim Use of Navigation Storage with city of Grapevine was approved by Secretary of the Army on February 27, 1981, at an estimated cost of $684,000, has been paid in full. Above contracts include payment of operation and maintenance costs as follows: Dallas County Park Cities Water Control and Improvement District No. 2, a pro rata part of the actual annual cost, which part is to be not less than $2,000 nor more than $3,000; Dallas, 9.2 percent of actual annual cost; and Grapevine, its pro rata part of actual annual cost (estimated at $79.55 annually and included in total annual payment). Following operation and maintenance payments have been made: Park Cities, $148,231; Dallas, $930,341; and Grapevine, $457,573.

Operations during fiscal year. Installed Homeland Security devices to include video cameras and seismic sensors. Continued routine operation and maintenance activities.

Benefits accrued to system comprised of Grapevine Lake and Dallas Floodway: Accumulated flood damages prevented through FY 2003 were $8,759,639,100.

10. HORDS CREEK LAKE, TX

Location. On Hords Creek, a tributary of Pecan Bayou, about 13.5 miles west of Coleman,

Texas, and about 27.8 miles upstream from mouth of Hords Creek.

Existing project. For description of completed improvement and authorizing acts see Annual Report of 1962. Construction of project was started January 1947 and completed for beneficial use in April 1948. Estimated cost of project is $4,337,000 including $105,000 contributed by local interests.

Local cooperation. Completed as required.

Operations during fiscal year. Continued routine operation and maintenance activities.

Benefits accrued to Hords Creek project: Accumulated flood damages prevented through FY 2003 were $990,400.

11. JIM CHAPMAN LAKE, TX

Location. Jim Chapman Lake is located in northeast Texas about 4 miles southeast of Cooper, 13.0 miles north of Sulphur Springs, and is at river mile 23.3 on the South Sulphur River. The South Sulphur River rises in Fannin County, Texas, and flows generally east for about 80 miles to its confluence with the North Sulphur River to form the Sulphur River.

Existing project. For description of completed improvement and authorizing acts, see Annual Report of 1997. Construction of project was started in July 1958 and completed for beneficial use in May 1994. The Energy and Water Development Appropriations Act of 1997, Public Law 104-206, H.R. 3816, 104th Congress, H.R. 3816, effective September 30, 1996, changed the name of Cooper Lake and Channels, TX, to Jim Chapman Lake, TX. Estimated cost of project is $143,000,000, including $227,000 non-Federal cost for land for the levees.

Local cooperation. Local interests (North Texas Municipal Water District, Sulphur River Municipal Water District, city of Irving) will utilize water impounded for present and future water supply. The total cost allocated to water supply to be reimbursed is $54,600,000. North Texas Municipal Water District, NTMWD, has contracted for 36.859 percent of the water supply storage for future use with deferred payments for ten years. Under the contract NTMWD must pay 13.803 percent of actual annual cost of operation and maintenance. Sulphur River Municipal Water District, SRMWD, has contracted for 6.5 percent of the water supply storage for initial use and 19.78 percent for future use for a total of 26.282 percent of the water supply storage. To date, $248,628 has been paid. Under the contract, SRMWD must pay 2.435 percent of actual annual operation and maintenance. To date, $127,818 has been paid. The city of Irving has contracted for 16.923 percent of the water supply storage for initial use and 19.936 for future use for a total of 36.859 of the water supply storage. To date, $1,283,266 has been paid. Under the contract Irving must pay 6.337 percent of actual annual operation and maintenance. To date $329,716 has been paid.

The Texas Parks and Wildlife Department and the Corps of Engineers have entered into or have agreed to formal Operation and Maintenance contracts for recreation facilities and wildlife conservation and management. Under the contracts for recreation facilities dated 7 November 1988 and 11 September 1990, Texas Parks and Wildlife will be responsible for 100 percent of the operations and maintenance of two state parks that are being constructed with Federal funds. Under the contracts for wildlife conservation and management the state will be responsible for 24.14 percent of the operation, maintenance and replacement annual costs for areas totaling approximately 35,500 acres. The remaining balance will be the responsibility of the Project Sponsors and the Government.

Operations during fiscal year. Work continues on the Northeast Texas Cultural Center. Expected completion date is September 2004. Continued routine operation and maintenance activities.

Benefits accrued to Jim Chapman Lake project: Accumulated flood damages prevented through FY 2003 are estimated at $16,828,300.

12. JOE POOL LAKE, TX

Location. Dam is located at River Mile 11.2 on Mountain Creek, a right bank tributary of the West Fork of the Trinity River, and is adjacent to the city limits of Grand Prairie, Dallas County, Texas, which is one of the rapid growing cities in the Dallas-Fort Worth Metropolitan area.

Existing project. For description of completed improvement and authorizing acts see Annual Report

of 1996. Construction of project was started in 1975 and completed for beneficial use in September 1994. Public Law 97-400, H.R. 7377, 97th Congress, effective December 31, 1982, changed the name of Lakeview Lake to Joe Pool Lake. Estimated cost of project is $215,540,000 including $11,350,000 contributed by local interests.

Local cooperation. The Water Supply Act of 1958 as amended, and the Federal Water Project Recreation Act of 1965 apply. Water storage space contract with the Trinity River Authority (TRA) for 142,900 acre-feet of water supply storage space was executed September 29, 1976. Final capital cost for water storage space is $60,828,657, including Interest During Construction and contractor claims. Recreation development contract with the TRA Joe Pool Lake was executed August 2, 1976. Under this original recreation contract, as amended, TRA had difficulty meeting its long-term capital debt repayment obligation to the Government. As a result, H.R. 4733, Title I, Section 102(b), 106th Congress, 2nd Session, authorized the city of Grand Prairie, TX, to pay the Government a total of $4,290,000 in two installments in exchange for the local sponsorship of the recreation program, relieving TRA of any and all obligations. The city of Grand Prairie made its first installment in the amount of $2,150,000 on December 1, 2000, with the second and final installment, in the amount of $2,140,000, due and payable no later than December 1, 2003.

Operations during fiscal year. Continued routine operation and maintenance activities.

Benefits accrued to Joe Pool Lake project: Accumulated flood damages prevented through FY 2003 were $1,257,907,100.

13. JOHNSON CREEK, ARLINGTON, TX

Location. The project is located in the city of Arlington, Tarrant County, Texas.

Existing project. The Johnson Creek Watershed, which has a drainage area of 21 square miles, lies principally in Tarrant County, with a small portion lying in Dallas County. Much of the watershed is extensively developed, and is being used for industrial, residential, commercial, and recreational activities. The flood of record occurred on May 16-17, 1989, which damaged 175 structures and overtopped eight major bridges by as much as five feet. The flood of March 26-27, 1977, inundated about 70 homes, and one person drowned. Estimated Federal cost is $14,430,000 (October 2001 price levels), and estimated cost to local interests is $8,390,000. The total project cost is estimated at $22,820,000. The project was authorized by the Water Resources Development Act of 1999, Section 101 (b)(14). Construction was started in 1997 by the city of Arlington, after a Section 104 request was granted by the ASA (CW).

Local cooperation. The city of Arlington, Texas, signed the Project Cooperation Agreement on December 1, 2000. To date, $7,600,000 has been contributed by the city of Arlington.

Operations during fiscal year. During FY 2003, funds were used to complete plans and specifications, buyouts, and continue project construction. The project is 67 percent complete overall and is scheduled for completion in September 2007.

14. LAVON LAKE, TX

Location. Dam is in Collin County, Texas, on East Fork of Trinity River 55.9 miles above its confluence with Trinity River and about 22 miles northeast of Dallas, Texas.

Existing project. For description of completed improvement and authorizing acts see Annual Report of 1962. Construction of project was started January 1948 and ready for beneficial use in September 1953. Project is complete. See following section for Lavon Lake Modification and East Fork Channel Improvement authorized by Flood Control Act of 1962. Estimated cost of project is $15,470,000.

Local cooperation. Section 2, Flood Control Act of 1938, applies. A contract with North Texas Municipal Water District, NTMWD, for water supply storage, including cost of intake structure, was approved by Secretary of the Army July 8, 1954, at an estimated cost of $1,405,753. Contract was revised in 1973 and final revised contract amount is $1,445,262. To date, NTMWD has paid $5,880,972. Under the contract, NTMWD must pay annually 13.6 percent of actual annual cost of operation and maintenance, and to date has paid $1,815,539.

Operations during fiscal year. Continued routine operation and maintenance activities.

Benefits accrued to Lavon Lake project: Accumulated flood damages prevented through FY 2003 were $505,926,800.

15. LAVON LAKE MODIFICATION AND EAST FORK CHANNEL IMPROVEMENT, TX

Location. Existing dam is in Collin County Texas, on East Fork of Trinity River, 55.9 miles above its confluence with Trinity River and about 22.0 miles northeast of Dallas, Texas. Channel improvement of East Fork extends from its mouth to River Mile 31.8.

Existing project. For description of completed improvement and authorizing acts see Annual Report of 1988. Construction of project was initiated in May 1970 and ready for beneficial use in December 1975. Estimated Federal cost of the modification and improvement is $69,750,000 and $220,000 local interests, a total of $69,970,000. Project is complete.

Local cooperation. Local interests must reimburse the Federal Government for costs allocated to increased water supply storage under the terms of the Water Supply Act of 1958. The North Texas Municipal Water District, NTMWD, has contracted for 43 percent of the water supply (approved September 22, 1967, by the Secretary of the Army) and to date $985,433 has been paid. NTMWD has submitted assurance to contract for 57 percent of future water supply. Reimbursement is currently estimated at $39,933,278.

Levee Districts 4 and 5, which comprise the lower 10 miles of the East Fork Channel, entered into agreements as required by Section 221 of the Flood Control Act of 1970 on January 28, 1972 and have furnished all necessary construction easements.

Levee Districts 6, 8, 10, 13, and 15, which comprise the upper 15 miles of the East Fork Channel, have declined to provide the necessary assurances. On December 8, 1972, this portion of the project was reclassified from "active" to "inactive" category.

Operations during fiscal year. Continued routine operation and maintenance activities.

16. LEWISVILLE DAM, TX

Location. Dam is in Denton County, Texas, on Elm Fork of Trinity River 30 river miles above its confluence with Trinity River and about 22 miles northwest of city of Dallas, Texas at a site downstream from old Garza Dam.

Existing project. For description of completed improvement and authorizing acts see Annual Report of 1962. Construction of project was started November 1948 and ready for beneficial use in November 1954. Estimated cost of project is $25,902,000, including $3,677,000 contributed by local interests.

Hydropower: The city of Denton, Texas, COD, was licensed by the Federal Energy Regulatory Commission to construct a 2,000-kilowatt plant, which is located adjacent to the existing outlet channel. The project operates utilizing conservation releases, i.e., no change from the present operating regiment is anticipated. COD Utilities Department utilizes this power for its local customers. Construction of the hydropower was completed in 1991 with non-Federal funds.

Local cooperation. A contract with city of Dallas for 415,000 acre-feet of water supply storage land rights and interests to Garza Dam and Reservoir was approved by the Secretary of the Army on July 16, 1953. Local contributions have been made in full. A contract with city of Denton, Texas, for remaining 21,000 acre-feet of water supply storage was approved by the Secretary of the Army on May 20, 1954, with an estimated cost of $250,064. Local contributions have been paid in full. Under above contracts, cities of Dallas and Denton must pay annually 21.9 and 1 percent, respectively, of actual annual cost of operation and maintenance. To date Dallas has paid $5,183,706 and Denton $230,482.

Operations during fiscal year. Repaired 45,000 linear feet of cracked sealing at the top of the dam. Continued routine operation and maintenance activities.

Benefits accrued to system comprised of Lewisville Lake; this includes Ray Roberts Lake and Dallas Floodway Systems. Accumulated flood damages prevented through FY 2003 were $29,445,105,800.

17. MILLICAN LAKE, TX

Location. Dam is on the Navasota River at mile 24.1, approximately 7.0 miles north of Navasota, Texas in Grimes and Brazos Counties, Texas.

Existing project. The project provides for construction of a concrete and earthfill dam 25,300 feet long including a 472-foot gate-controlled spillway, rising 83 feet above the streambed.

Local cooperation. The project is authorized for construction by the River and Harbor Act of 1968. The Water Supply Act of 1958 as amended and the Federal Water Project Recreation Act of 1965 applies. The Brazos River Authority has indicated by letter dated February 16, 2001 their intent to be the cost-sharing sponsor for this project.

Operations during fiscal year. Funds were reprogrammed into the project for economic reevaluation to determine if the authorized project remains justified and meets current day needs. This reevaluation indicated that the authorized project remained justified and warranted further detailed study.

18. NAVARRO MILLS LAKE, TX

Location. Dam is in Navarro County, Texas, at River Mile 63.9 on Richland Creek, a tributary of Trinity River, about 16.0 miles southwest of Corsicana, Texas.

Existing project. For description of completed improvement and authorization acts see Annual Report of 1965. Construction started December 1959 and project completed for beneficial use March 1963. Estimated cost of project $13,154,000 including $300,000 contributed by local interests.

Local cooperation. The Water Supply Act of 1958, as amended, applies. A formal contract with the Trinity River Authority was approved March 3, 1966, by the Secretary of the Army at an estimated cost of $2,260,800. To date the Authority has paid $1,613,592 for water supply and $1,894,833 for operation and maintenance.

Operations during fiscal year. Continued routine operation and maintenance activities.

Benefits accrued to Navarro Mills Lake project: Accumulated flood damages prevented through FY 2003 were $35,618,100.

19. O.C. FISHER DAM AND LAKE, TX

Location. Dam is on North Concho River, a tributary of Concho River, about 6.6 miles above mouth of North Concho River near city of San Angelo, Texas.

Existing project. For description of completed improvement and authorizing acts see Annual Report of 1962. Name was changed from San Angelo Dam and Reservoir to O.C. Fisher Dam and Lake January 3, 1975 by Public Law 93-634. Construction of project was started May 1947 and ready for beneficial use February 1952. Estimated cost of project is $17,111,000.

Local cooperation. Section 2, Flood Control Act of 1938, applies. A water supply contract with Upper Colorado River Authority for water supply storage in reservoir was approved by Secretary of the Army on October 11, 1948. The Authority has contributed $860,444 toward cost of project and $64,336 toward operation and maintenance for a 50-year period. The Authority must pay additional contributions of $1 a year for useful life of project, beginning January 1, 1965.

Operations during fiscal year. Repaired low flow gates, stems and stem guides. Continued routine operation and maintenance activities.

Benefits accrued to O.C. Fisher Dam and Lake project: Accumulated flood damages prevented through FY 2003 were $19,589,300.

20. PROCTOR LAKE, TX

Location. Dam is at River Mile 238.9 on Leon River, a tributary of Brazos River, about 8.0 miles northeast of Comanche in Comanche County, Texas.

Existing project. For description of completed improvement and authorization act see Annual Report of 1969. Construction of project was started July 1960 and completed for beneficial use 1963. Estimated cost of project is $16,249,000.

Local cooperation. The Water Supply Act of 1958 applies. A formal contract with the Brazos River Authority, a State agency, was approved by Secretary of the Army, July 1, 1960, and was

modified and approved May 9, 1966, at an estimated cost of $1,707,900. To date the Authority has paid $662,077 for water supply and $834,481 for operation and maintenance.

Operations during fiscal year. Converting flowage easement to fee acquisition at Buffalo Springs and Frees subdivision. Continued routine operation and maintenance activities.

Benefits accrued to Proctor Lake project: Accumulated flood damages prevented through FY 2003 were $70,658,500.

21. RAY ROBERTS LAKE, TX

Location. Dam site is located at River Mile 60.0 on the Elm Fork of the Trinity River, Denton County, between Sanger and Aubrey, Texas and 30 miles upstream from Lewisville Dam.

Existing project. The plan of improvement provides for construction of an earthfilled dam with a maximum height of 141 feet above the streambed, a length of 15,250 feet including an uncontrolled broadcrested spillway 100 feet long, controlling 682 square miles of drainage area. The lake will have a total controlled storage of 1,064,600 acre-feet, with a water surface area of 36,900 acres. The total storage includes 260,800 acre-feet for flood control, 749,200 acre-feet for water supply, and 54,600 acre-feet for sediment reserve. The Water Resources Development Act of 1990 authorized the Greenbelt Corridor between Lewisville and Ray Roberts Lakes. Estimated Federal cost of the project is $317,300,000 (Oct. 1, 1995 base price). Public Law 96-384, 96th Congress, H.R. 8094, effective January 4, 1981, changed the name of Aubrey Lake to Ray Roberts Lake.

Hydropower: At the request of the city of Denton and the approval of the Secretary of the Army the penstock was added to the embankment as a minimum facility for future hydropower. The city of Denton, Texas, COD, was licensed by the Federal Energy Regulatory Commission to construct a 1,000-kilowatt plant, which is located adjacent to the existing outlet channel. The project operates utilizing conservation releases, i.e., no change from the present operating regiment is anticipated. COD Utilities Department utilizes this power for its local customers. Construction of the hydropower was completed in 1991 with non-Federal funds.

Local cooperation. The Water Supply Act of 1958, as amended, and the Federal Water Project Recreation Act of 1965 and Section 221, Flood Control Act of 1970 apply. Contracts with the cities of Dallas and Denton, Texas, for water supply storage and recreation were approved by the Secretary of the Army, September 16, 1980. To date the city of Dallas has paid $173,145,337. The city of Denton has paid in full their share of the water supply storage. Dallas has paid $872,231 and Denton has paid $306,451 toward annual cost of operation and maintenance.

Operations during fiscal year. The project was physically completed in April 1999. Financial closeout of the project is continuing. Continued routine operation and maintenance activities.

Benefits accrued to Ray Roberts Lake project: Accumulated flood damage prevented is shown in with Lewisville Dam, TX.

22. SAN ANTONIO CHANNEL IMPROVEMENT, TX

Location. Floodway is in city of San Antonio, Bexar County, Texas, on San Antonio River and San Pedro, Apache, Alazan, Martinez, and Six Mile Creeks.

Existing project. The project consists of 30.7 miles of channel and associated improvements on six separate streams. Completion of detailed engineering and design studies revealed that the least costly alternative for the remaining channel improvements would consist of two tunnels 120 feet below the surface each having an inside diameter of 24 feet and vertical intake, outlet and access shafts. The San Pedro Creek tunnel is 6,040 feet in length and the San Antonio River tunnel is 16,360 feet in length. Estimated Federal cost of these modifications is $155,250,000 (Oct. 1, 2000, base price), and estimated cost to local interests is $66,650,000, which includes $4,100,000 cash contributions and $62,550,000 for lands, damages, and construction, a total of $221,900,000. The existing project was authorized by 1954 Flood Control Act. The Water Resources Development Act of 1976 added authorization to the existing project for construction of flood control measures needed to preserve and protect the Espada Aqueduct located in the vicinity of Six Mile Creek. Construction was started in October

1957. The Water Resources Development Act of 1996 added a Section 215 reimbursement limitation. The Water Resources Development Act of 2000 added environmental restoration and recreation as project purposes.

Local cooperation. Local interests must furnish lands and rights-of-way for construction, including purchase and removal of buildings, relocation or reconstruction of bridges (exclusive of railway bridges), channel dams where applicable, and utility lines; hold the United States free from damages; maintain and operate all works after completion; and provide a cash contribution for enhancement benefits of 2.65 percent of actual Federal construction cost. San Antonio River Authority furnished assurances that it will comply with all requirements of local cooperation. These assurances were accepted by the District Engineer on April 15, 1957. To date $3,958,731 has been contributed by San Antonio River Authority. In addition, $30,000 has been contributed and accepted, under the authority of Civil Functions Appropriations Act of 1958, for vehicular crossings over the San Antonio Channel.

Operations during fiscal year. During FY 2003, funds were used to continue the cost shared General Reevaluation Report for environmental restoration and recreation, continue flood damage repairs, and continue floodplain mapping of the San Antonio River tributaries. The project is about 99 percent complete overall and is scheduled for completion in September 2007.

Benefits accrued to San Antonio project: Accumulated damages prevented through FY 2003 were $464,039,400.

23. SAN GABRIEL RIVER, TX

Location. Project is a system of three reservoirs in Williamson County in the central portion of Brazos River Basin, which consists of Granger Dam at River Mile 31.9 on San Gabriel River, about 7.0 miles east of Granger, Texas; North San Gabriel Dam at River Mile 4.3 on North Fork of San Gabriel River, about 3.5 miles northwest of Georgetown, Texas; and South Fork Dam at River Mile 4.7 on South Fork of San Gabriel River, about 3.0 miles southwest of Georgetown, Texas.

Existing project. For description of completed improvements and authorizing acts, see the Annual Report of 2001. Construction of Granger Lake started in October 1972 and the project was ready for beneficial use in January 1980. Estimated cost of project is approximately $62 million. Construction of North San Gabriel Dam and Lake Georgetown started in October 1972 and the project was ready for beneficial use in March 1980. Estimated cost of project is approximately $38.8 million. The South Fork Lake project is scheduled for Deauthorization in FY 2003.

Local cooperation. Construction is subject to condition that local interests reimburse the Federal Government for costs allocated to water supply at Granger, Georgetown, and South Fork Lakes. Reimbursement currently estimated at $13,315,000 for Granger, $6,295,000 for Georgetown, and $50,563,000 for South Fork, for a total of $70,172,000, exclusive of interest. Brazos River Authority, a State agency, is the local interests' sponsor of project, and by letter dated April 18, 1966, indicated its acceptance of the proposed plan of development and its willingness to pay for the costs allocated to water supply in each reservoir in the ultimate plan. Such water supply assurances for Granger and Georgetown Lakes were approved May 24, 1968 as satisfactory in accordance with requirements of the Water Supply Act of 1958, as amended. Contract negotiations for South Fork Lake will be deferred until the need for water supply develops and the reservoir is scheduled for construction.

Operations during fiscal year. Granger and Georgetown: routine operation and maintenance continued at both projects. Design and construction activities initiated on Congressionally funded trail system at Georgetown.

Benefits accrued to project consisting of Granger and Georgetown: Accumulated flood damages prevented through FY 2003 were $56,786,200.

24. SOMERVILLE LAKE, TX

Location. Dam is on Yegua Creek 20 miles upstream from its confluence with Brazos River and about 2 miles south of Somerville, Texas.

Existing project. For description of completed improvements and authorizing act see Annual Report of 1969. Construction started in June 1962 and the project was ready for beneficial use in January 1967. Estimated cost of project is $30,227,000.

Local cooperation. The Water Supply Act of 1958, as amended, applies. A contract with the Brazos River Authority, a State agency, for water supply storage approved May 10, 1962, by the Secretary of the Army, has paid $2,836,939 to date. Also under the contract, the Authority must pay annually 28.655 percent of the actual annual cost of operation and maintenance.

Operations during fiscal year. Continued routine operation and maintenance activities.

Benefits accrued to Somerville Lake project: Accumulated flood damages prevented through FY 2003 were $142,602,800.

25. STILLHOUSE HOLLOW DAM, TX

Location. Dam is on Lampasas River 16 miles upstream from its confluence with Little River, a tributary of the Brazos River, and about 5 miles southwest of Belton, Texas.

Existing project. For description of completed improvements and authorizing act see Annual Report of 1969. Construction was initiated in July 1962 and the project was ready for beneficial use in February 1968. Estimated cost of project is $23,670,000.

Local cooperation. The Water Supply Act of 1958 applies. A contract with the Brazos River Authority, a State agency, for water supply storage was approved April 13, 1962, by the Secretary of the Army, at an estimated cost of $6,912,430. To date the Authority has paid $3,655,147. Also under the contract the Authority must pay annually 27.748 percent of the actual annual cost of operation and maintenance. To date the Authority has paid $2,238,092.

Operations during fiscal year. Continued routine operation and maintenance activities.

Benefits accrued to Stillhouse Hollow Dam Project: Accumulated estimate of flood damages prevented through FY 2003 is $75,323,300.

26. WACO LAKE, TX

Location. Dam is on Bosque River, 4.6 river miles above its confluence with Brazos River, at city of Waco, McLennan County, Texas.

Existing project. For description of completed improvements and authorizing act see Annual Report of 1969. Estimated cost of project is $50,853,000 including $250,000 contributed by local interests and $2,500,000 other non-Federal cost. Construction was started in July 1958, and project was ready for beneficial use in February 1965.

Local cooperation. Section G of the Flood Control Act of December 1944 applies. A contract with the Brazos River Authority, a State agency, for water supply storage and the contract with the city of Waco transferring the existing Lake Waco to the Government for their water storage, was approved by the Secretary of the Army on April 15, 1958. To date, the Authority for their portion of the water supply storage has paid $3,405,242. Also under the contract the Authority and the city must pay 14.706 and 2.087 percent respectively of the actual cost of operation and maintenance. To date the Authority has paid $1,833,377 and the city has paid $274,287. A contract with the Brazos River Authority, for additional storage for municipal and industrial water supply, was approved by the Acting Assistant Secretary of the Army, September 28, 1984.

Operations during fiscal year. Work on Congressional add for pool continues. Continued routine operation and maintenance activities.

Benefits accrued to Waco Lake project: Accumulated flood damages prevented through FY 2003 were $333,647,600.

27. WACO LAKE, TX (DAM SAFETY)

Location. For location of completed dam see Waco Lake, Texas in this chapter.

Existing project. The existing rolled earthfill embankment's top elevation of 510 feet National Geodetic Vertical Datum (NGVD), is hydrologically deficient. The original hydrologic design criteria used for Waco Dam design has been revised. Current hydrologic design criteria indicates the spillway and outlet works cannot pass the Probable Maximum Flood (PMF) without overtopping the dam by 1.0

foot, which could lead to failure of the embankment and catastrophic release of the reservoir. Adding required freeboard, Waco Dam crest height is hydrologically deficient by 4.6 feet. The proposed modification consists of raising the dam crest approximately by 4.6 feet to 514.6 feet NGVD utilizing a combination of compacted earthfill and reinforced cast-in-place concrete parapet wall for the full length of the dam. No major modification to the spillway, spillway service bridge, outlet works tower, or outlet works tower service bridge will be required. However, the spillway hoist mechanisms for the tainter gates will be waterproofed. The outlet works service bridge will be provided with a removable bulkhead to be installed only large flood events but would otherwise remain unchanged. Estimated Federal cost for raising the dam modification is $6,260,000 (Oct. 1, 1998, base price) and $220,000 is to be reimbursed by local sponsors.

Operations during fiscal year. Project construction was completed in September 2001. Financial closeout was completed in July 2002. Total cost of the project was $4,738,400.

28. WRIGHT PATMAN DAM AND LAKE, TX

Location. Dam is on Sulphur River in Cass and Bowie Counties, Texas. Dam is 45 miles above mouth of Sulphur River, and about 8 miles southwest of Texarkana, Texas.

Existing project. For description of completed improvements and authorizing act see Annual Report of 1984. Estimated cost of project is $51,945,000, which includes $5,449,100 Code 711, $399,939 accelerated public works funds, and $13,138,004 to be reimbursed by local interests, over a period not to exceed 50 years, for water supply storage, and including $2,092,040 for pro rata share of original reservoir cost. Construction was initiated in August 1948 and completed in March 1962, except real estate activities, construction under Code 711, and conversion of 120,000 acre-feet to water supply storage after completion of Cooper Reservoir (now Jim Chapman Lake). This project transferred to the Fort Worth District as of the end of FY 1979.

Local cooperation. A contract with the city of Texarkana, Texas, for reserving water supply storage space was approved by the Secretary of the Army December 17, 1968. To date, the city has paid $933,142. The city has paid $840,305 toward operation and maintenance costs of the project.

Operations during fiscal year. Completed extensive repairs to outlet works structure and roof; replaced lift cables on the outlet works gates. Continued routine operation and maintenance activities.

Benefits accrued to Wright Patman Dam and Lake project: Accumulated flood damages prevented through FY 2003 were $88,298,200.

29. INSPECTION OF COMPLETED FLOOD CONTROL PROJECTS

Inspection of completed local flood protection projects is made periodically in compliance with Section 208. 10, of Title 33, Code of Federal Regulations, which contains regulations for operation and maintenance of local flood-protection works approved by the Secretary of the Army in accordance with authority in Section 3, Flood Control Act of 1936. See Table 39-D for inspections made this fiscal year.

Inspection costs for FY 2003 from regular funds for maintenance were $149,426. Total costs to September 30, 2003 were $149,426.

30. SCHEDULING FLOOD CONTROL RESERVOIR OPERATIONS

In accordance with Flood Control Act of 1944, expenditures were made for scheduling flood control reservoir operations and preparation of reservoir regulation manual for Marshall Ford Dam, on the Colorado River, near city of Austin, Texas, and for preparation of reservoir regulation manual for Twin Buttes Dam, on Middle and South Concho Rivers near city of San Angelo, Texas. Marshall Ford Dam was authorized by 1937 River and Harbor Act. Project was constructed jointly by Bureau of Reclamation and Lower Colorado River Authority and was completed during FY 1942. Twin Buttes Reservoir was authorized for construction by Department of Interior by Public Law 152, 85th Congress. Construction was initiated in June 1960; closure of dam started in June 1962; deliberate impoundment was started January 23, 1963.

Accumulated damages prevented by Marshall Ford Reservoir through FY 2003 were $364,909,900 and by Twin Buttes through FY 2003 were

$1,142,650. Twin Buttes Reservoir consists of two separate pools, one on South Concho River and the other on Middle Concho River and Spring Creek. Equalizing channel between these two pools is at elevation 1925.0. Costs for FY 2003 from regular funds for operation of both reservoirs were $58,052.

31. OTHER AUTHORIZED FLOOD CONTROL PROJECTS

(See Table 39-C.)

32. WORK UNDER SPECIAL AUTHORIZATION

(See Table 39-E.)

Flood control activities pursuant to Section 205, Public Law 585, 80th Congress, as amended (preauthorization); Emergency stream bank protection under Section 14, Public Law 526, 79th Congress, as amended; Snagging and Clearing of navigable streams and tributaries in interest of flood control Section 208, Public Law 780, 83rd Congress, as amended. Emergency flood control, hurricane-flood, and shore protection activities, Public Law 99, 84th Congress, and antecedent legislation, Environmental restoration under Section 1135, Public Law 662, 99th Congress, as amended; Aquatic ecosystem restoration under Section 206, Public Law 303, 104th Congress.

Fiscal year costs were $44,945 for catastrophic disaster preparedness program; $1,628 for recreation management support program; $250,106 for anti-terrorism /force protection; no levee repairs.

Multi-Purpose Projects Including Power

33. ROBERT DOUGLAS WILLIS HYDROPOWER, TX

Location. For location of completed dam see Town Bluff Dam-B.A. Steinhagen Lake, Texas in this chapter.

Existing project. Installation of hydroelectric power generating facilities at Town Bluff Dam was authorized by the River and Harbor Act of 1945 (Public Law 79-14), March 2, 1945, but deferred in the original construction. Town Bluff Dam was completed and placed in operation in 1951. A Design Analysis Report completed in April 1982 and a Feasibility Report approved September 9, 1983 indicated that installing hydropower at this project was economically feasible. The hydropower facilities include a 7,400-kilowatt power plant (two units at 3,700 kilowatts each), intake and outlet facilities, and necessary switchgear equipment is located in the main embankment at the old diversion channel. The plant is operated remotely from the Sam Rayburn project. The project produces an estimated 35,900 megawatt hours of energy per year. There is no Federal cost on this project, it is completely funded by non-Federal funds. The estimated non-Federal cost is $18,643,000. 101st Congress House Report 923, effective February 7, 1989, changed the name of Town Bluff Hydropower to Robert Douglas Willis Hydropower.

Local cooperation. A contract with the Sam Rayburn Municipal Power Authority was approved by Secretary of the Army, June 28, 1985, relative to financing, escrow agreement, and power sales agreement.

Operations during fiscal year. Repair tainter gates; continued routine operation and maintenance activities.

34. SAM RAYBURN DAM AND RESERVOIR, TX

Location. Dam is on Angelina River 25.2 miles upstream from its confluence with Neches River and about 10.0 miles northwest of Jasper, Texas.

Existing project. For description of completed improvements and authorizing act see Annual Report of 1969. Construction was started August 1956 and project was ready for beneficial use in March 1965. Estimated cost of project is $68,683,000 including $3,000,000 contributed by local interests.

Local cooperation. A contract with the Lower Neches Valley Authority, a State agency, to contribute $3,000,000 toward the first cost and an additional $200,000 annually for 50 years after completion of the project was approved by the Secretary of the Army on January 22, 1957. Contribution of $3,000,000 was made in full and annual payments to date of $5,600,000 have been made by the Authority.

A contract with the city of Lufkin for water supply storage was approved May 27, 1969, by the Secretary of the Army at an estimated cost of

$525,600. To date, the city has paid $1,082,566. Also under the contract the city of Lufkin must pay annually 0.692 percent of the annual cost of operation and maintenance. To date, the city has paid $252,491.

Operations during fiscal year. Completed repairs to the raw water readers and valves at the powerhouse. Continued routine operation and maintenance activities.

Benefits accrued to Sam Rayburn project: Accumulated flood damages prevented through FY 2003 were $959,338,300.

35. TOWN BLUFF DAM - B. A. STEINHAGEN LAKE, TX

Location. Dam is on Neches River about 12.4 miles below mouth of Angelina River, one-half mile north of Town Bluff, Texas, and 93.0 river miles north of Beaumont, Texas.

Existing project. For description of completed improvement and authorizing acts see Annual Report of 1962. Construction started March 1947 and project was ready for beneficial use in April 1951. Estimated cost of project is $9,888,000, including $2,000,000 contribution by local interests.

Local cooperation. Completed as required.

Operations during fiscal year. Contract awarded to repair tainter gates and other structural components at the spillway structure. Continued routine operation and maintenance activities.

36. WHITNEY LAKE, TX

Location. Dam is on Brazos River, about 442 miles above mouth of river, 5.5 miles southwest of Whitney, Texas, and about 38 miles upstream from city of Waco, Texas.

Existing project. For description of completed improvement and authorizing acts see Annual Report of 1962. Construction of project was started May 1947 and ready for flood control use in December 1951. First power was placed on the line in June 1953. Raise power pool is complete. Estimated cost of project is $46,306,000.

Local cooperation. Section 2, Flood Control Act of 1938, applies. A contract with the Brazos River Authority, a State agency, for water supply storage was approved by the Secretary of the Army November 3, 1982. To date, the Authority has paid $273,491.

Operations during fiscal year. Powerhouse switchyard was rehabilitated, including replacing circuit breakers, power bus, control transformers and cutout switches. Continued routine operation and maintenance activities.

Benefits accrued to Whitney Lake project: Accumulated flood damages prevented through FY 2003 were $814,494,700.

General Investigations

37. SURVEYS

Fiscal year costs for reconnaissance and feasibility studies were $569,481 for flood damage prevention studies and $1,737,647 for ecosystem restoration studies. Miscellaneous activities include $12,234 for Coordination with Other Agencies; $38,682 for Special Investigations; $47,707 for Planning Assistance to States; $5,433 for Inter-agency Water Resource Development; $2,120 for North American Waterfowl Management.

38. PRECONSTRUCTION ENGINEERING AND DESIGN

NORTH BOSQUE RIVER, TX

The North Bosque Watershed is located within the middle portion of the Brazos River Basin, which includes Erath and Bosque Counties. The ecological system of the basin has suffered significant adverse impacts due to urbanization and concurrent changes in land use to support the human environment. The plan of improvement consists of reforestation, construction of low-water dams, creation of conservation easements and wetland areas for the purpose of ecosystem restoration. Funds were appropriated in FY2003, but reprogrammed to another study, as the North Bosque Interim Feasibility Study, conducted under the Middle Brazos River Feasibility Study, was not completed in time for inception of the PED phase. It has since been determined that the study will not progress to the PED phase in the future, but instead be converted to a

Section 206 Continuing Authorities Program project in FY 2004.

39. COLLECTION AND STUDY OF BASIC DATA

Work continued under the Flood Plain Management Services on the compilation of information on floods and potential flood damages, including identification of those areas subject to inundation. Fiscal year expenditures for these activities totaled $92,019. Fiscal year costs were $7,101 for hydrologic studies.

Construction, General

BOSQUE AND LEON RIVER BASINS, TX

The project area is located on the Bosque and Leon River Watersheds in central Texas. The McGregor Naval Weapons Industrial Reserve Plant (NWIRP) is being closed under special legislation, and is hydrogeologically upgradient from both Lake Waco and Lake Belton. Perchlorate from the plant is migrating from contaminated sites on NWIRP property and may be threatening sole-source water supplies for Waco, Temple, Killeen and surrounding towns. The project is assessing the extent of perchlorate pollution to existing surface and groundwater supplies, as well as the wildlife habitat. FY 2003 activities include continuation of field sampling of water, plants and animals; begin evaluation of potential exposure to humans and the environment, and initiation of public dialog. Fiscal year expenditures for this project were $1,968,257.

WHITNEY LAKE (POWERHOUSE), TX (MAJOR REHAB)

The project area is described in Paragraph 36, Whitney Lake, TX. Rehabilitation measures include replacement of the two turbines, rewinding and uprating the two generators, and replacement of necessary peripheral items and equipment within the powerhouse. The total increase in power output of the plant will be from 30 megawatts to 42 megawatts. Fiscal year expenditures for this project were $168,390.

Operations and Maintenance

TEXAS WATER ALLOCATION ASSESSMENT

The study area includes the entire state of Texas. Work included review of the water supply proposals identified in the sixteen State of Texas Regional Plans; instream flow studies; brush management studies; partial reallocation study on Lake Texoma; rural issues study; study to develop a comprehensive, GIS-based decision support system for water resource management; reservoir operations system assessment in the Sulphur River basin; review of Corps water supply authorities and policies; prioritization of candidate watersheds for environmental restoration; national hydrography dataset; and hydrologic model comparison study. Fiscal year expenditures for these activities totaled $689,707.

TABLE 39-A

See Section in Text	Project	FY00	FY01	FY02	FY03	Total Cost to Sep. 30,2003[17]	See Note
1	Trinity River Project, TX Includes						
	Channel to Liberty	0	1,481,000	10,000,000	9,689,000	43,744,865	
	Tennessee Colony Lake and Dallas Floodway Extension	0	1,391,517	1,128,478	1,413,437	26,508,297	
2	Aquilla Lake, TX						
		0	0	0	0	45,506,300	
		0	0	0	0	45,506,300	
		495,402	626,664	650,974	547,500	10,750,873	
		494,234	621,230	596,616	608,478	10,750,874	
3	Bardwell Lake, TX						
		0	0	0	0	10,934,505	[18]
		0	0	0	0	10,934,505	[18]
		1,381,780	1,415,678	1,539,786	1,536,484	34,625,587	
		1,381,570	1,368,940	1,488,127	1,560,775	33,396,122	
4	Belton, Lake, TX						
		0	0	0	0	16,960,549	
		0	0	0	0	16,960,549	[1]
		2,342,703	2,749,404	2,471,465	2,872,018	55,486,675	[18]
		2,341,207	2,746,489	2,331,531	3,003,969	55,401,619	[18]
5	Benbrook Lake, TX						
		0	0	0	0	13,130,463	
		0	0	0	0	13,069,991	[2]
		1,881,572	1,861,714	2,078,986	1,915,894	45,242,685	[18]
		1,878,634	1,792,079	2,131,210	1,923,548	43,838,060	[18]

TABLE 39-A

See Section in Text	Project	FY00	FY01	FY02	FY03	Total Cost to Sep. 30,2003[17]	See Note
6	Canyon Lake, TX						
		0	0	0	0	19,088,524	[3]
		0	0	0	0	19,088,524	
		2,698,653	3,003,518	3,158,417	2,395,457	46,139,517	[18]
		2,693,821	3,000,514	2,682,156	2,855,455	45,894,810	[18]
8	Ferrels Bridge Dam-						
	Lake O' The Pines, TX	0	0	0	0	14,175,197	[4]
		0	0	0	0	14,175,197	[4]
		2,591,674	3,584,493	2,663,240	2,503,329	60,544,888	[18]
		2,616,552	3,578,116	2,504,690	2,585,780	60,462,519	[18]
9	Grapevine Lake, TX						
		0	0	0	0	21,317,790	
		0	0	0	0	21,317,790	
		2,310,317	2,302,882	2,408,522	2,319,489	52,713,868	[18]
		2,312,046	2,295,103	2,252,779	2,333,157	52,558,962	[18]
10	Hords Creek Lake, TX						
		0	0	0	0	2,731,089	[8]
		0	0	0	0	2,731,089	
		1,121,472	1,181,083	1,102,141	990,712	25,435,608	[18]
		1,119,966	1,170,419	1,032,050	1,066,592	25,364,509	[18]
11	Jim Chapman Lake, TX						
	(Federal Funds)	0	0	0	0	138,694,887	
		41,009	0	0	0	168,666,315	
	(Contributed Funds)	0	0	0	0	227,000	
		0	0	0	0	227,000	
	(Federal Funds)						
		0	1,066,239	1,067,213	1,097,984	14,371,765	
		0	1,127,343	1,077,280	1,287,090	13,047,626	

TABLE 39-A

See Section in Text	Project	FY00	FY01	FY02	FY03	Total Cost to Sep. 30,2003[17]	See Note
12	Joe Pool Lake, TX						
		0	0	0	0	188,960,000	
		0	0	0	0	188,873,609	
		596,050	678,519	711,981	660,028	11,209,254	
		596,139	672,018	696,619	683,414	11,208,665	
14	Lavon Lake, TX						
		0	0	0	0	12,864,796	
		0	0	0	0	12,864,796	
		2,245,796	2,321,018	2,406,905	2,434,745	60,260,576	[18]
		2,242,988	2,298,660	2,329,688	2,451,887	60,285,545	[18]
15	Lavon Lake Modification and East Fork Channel Improvement, TX	0	0	0	0	69,796,862	
		0	0	0	0	69,796,862	
16	Lewisville Dam , TX						
		0	0	0	0	25,333,988	
		0	0	0	0	25,333,988	[9]
		2,926,881	2,916,554	3,497,749	2,928,002	75,050,542	[18]
		2,923,443	2,910,633	3,406,978	2,998,249	72,458,026	[18]
18	Navarro Mills Lake, TX	0	0	0	0	9,846,759	
		0	0	0	0	9,846,759	[11]
		1,340,083	1,409,077	1,546,127	1,529,456	33,390,513	[18]
		1,340,570	1,404,162	1,501,145	1,535,028	33,344,799	[18]

TABLE 39-A

See Section in Text	Project	FY00	FY01	FY02	FY03	Total Cost to Sep. 30,2003[17]	See Note
19	O.C.Fisher Dam						
	and Lake, TX	0	0	0	0	16,027,467	
		0	0	0	0	16,027,467	
		755,803	744,046	877,163	647,965	27,377,986	18
		755,398	725,766	575,835	969,075	27,377,870	18
20	Proctor Lake, TX						
		0	0	0	0	14,469,585	
		0	0	0	0	14,469,585	
		1,724,038	1,664,100	2,198,891	1,546,698	41,347,749	18
		1,722,744	1,665,658	1,525,637	2,141,750	41,070,388	18
21	Ray Roberts Lake, TX						
		0	0	0	0	319,778,700	
		110,719	84,610	10,744	0	319,648,066	
		1,001,638	729,435	735,435	577,250	11,454,595	
		1,000,619	735,647	687,109	627,072	11,390,012	
33	Robert Douglas Willis						
	Hydropower, TX	0	0	0	0	18,628,463	
	(Contributed Funds)	0	0	0	0	18,628,463	
34	Sam Rayburn						
	Dam and	0	0	0	0	60,670,957	
	Reservoir, TX	0	0	0	0	60,670,957	12
		4,294,428	3,996,843	4,463,209	3,686,019	94,311,750	18
		4,293,583	3,989,524	3,961,631	4,131,404	93,931,538	18

TABLE 39-A

See Section in Text	Project	FY00	FY01	FY02	FY03	Total Cost to Sep. 30,2003[17]	See Note
22	San Antonio						
	Channel	992,082	1,063,057	730,000	1,604,000	156,275,187	
	Improvement, TX	943,245	1,034,656	858,005	1,114,919	155,683,036	
	(Federal Funds)						
	(Contributed Funds)	0	0	130,849	177,500	3,523,789	
		0	0	130,849	177,500	3,523,789	
23	San Gabriel River, TX						
		0	0	0	0	101,796,100	
		0	0	0	0	101,796,100	
	Granger Lake	1,522,746	1,463,924	1,448,767	1,443,725	28,538,052	[18]
		1,522,770	1,458,816	1,375,715	1,517,410	27,239,082	[18]
	Lake Georgetown	1,671,861	1,606,862	1,663,580	2,500,999	29,229,609	[18]
		1,672,018	1,601,264	1,592,010	1,762,009	28,412,383	[18]
24	Somerville Lake, TX						
		0	0	0	0	27,790,438	
		0	0	0	0	27,790,438	
		2,739,611	2,734,853	2,474,008	2,480,640	55,992,616	[18]
		2,741,102	2,725,504	2,398,137	2,571,839	47,913,896	[18]
25	Stillhouse Hollow						
	Dam, TX	0	0	0	0	20,522,084	[13]
		0	0	0	0	20,522,084	
		1,957,661	1,599,658	1,651,388	1,630,588	35,814,765	[18]
		1,955,653	1,595,478	1,577,186	1,710,802	35,789,118	[18]

TABLE 39-A

See Section in Text	Project	FY00	FY01	FY02	FY03	Total Cost to Sep. 30,2003[17]	See Note
35	Town Bluff Dam-						
	B.A. Steinhagen	0	0	0	0	6,602,737	
	Lake, TX	0	0	0	0	6,602,737	[14]
		2,137,690	1,722,688	1,820,332	2,293,909	35,855,229	[18]
		2,136,597	1,717,464	1,696,172	1,835,698	35,202,794	[18]
26	Waco Lake, TX						
		0	0	0	0	49,521,121	[15]
		0	0	0	0	49,521,121	
		3,432,919	2,749,791	4,205,112	2,767,464	56,786,672	[18]
		3,415,713	2,744,744	2,685,840	3,451,213	55,851,743	[18]
27	Waco Lake, TX						
	(Dam Safety)	140,000	-4,500	-131,100	0	4,738,400	
		1,066,326	205,593	77,385	0	4,738,400	
	(Federal Funds)						
	(Contributed Funds)	0	0	-56,786	0	169,804	
		101,956	0	-56,786	0	169,804	
36	Whitney Lake, TX						
		0	0	0	0	42,952,938	
		0	0	0	0	42,952,938	[16]
		4,948,951	4,646,994	4,688,973	3,819,230	91,614,326	[18]
		4,916,605	4,667,890	3,625,878	4,840,188	91,282,212	[18]
28	Wright Patman Dam						
	and Lake, TX	0	0	0	0	35,731,626	
		0	0	0	0	35,731,626	
		2,531,902	2,885,614	2,264,503	2,584,046	58,688,540	[18]
		2,538,921	2,884,611	2,172,621	2,473,663	57,479,923	[18]

TABLE 39-B - Authorizing Legislation

See Section in Text	Date Authorizing Act	Project and Work Authorized	Documents
		AQUILLA LAKE, TX	
2	Aug. 13, 1968	Construction of a dam on Aquilla Creek about 6.8 miles southwest of Hillsboro, Texas and about 24 miles north of Waco, Texas.	S. Doc. 52, 90th Cong., 1st Sess.
		BARDWELL LAKE, TX	
3	Mar. 31, 1960	Construction of a dam on Waxahachie Creek about 5 miles south of Ennis, Texas	H.Doc. 424, 82nd Cong., 2nd Sess.
		BEALS CREEK, BIG SPRINGS, TX	
4	Oct. 12, 1972	Construction of a channel.	H. Doc. 115, 92nd Cong., 2nd Sess.
		BELTON LAKE, TX	
5	Jul. 24, 1946	Construction of a dam on Leon River, about 3 miles north of Belton, Texas.	H. Doc. 88, 81st Cong., 1st Sess.
	Sep. 3, 1954	Modification of the dam to provide for generation of hydroelectric power.	H. Doc. 535, 81st Cong., 2nd Sess.
		BENBROOK LAKE, TX	
6	Mar. 2, 1945	Construction of a dam on the Clear Fork of the Trinity River about 10 mile southwest of Fort Worth, Texas	H. Doc.403, 77th Cong., 1st Sess.
		CANYON LAKE, TX	
7	Mar. 2, 1945 Sep. 3, 1954	Construction of a dam on the Guadalupe River about 12 miles northwest of New Braunfels, Texas.	H. Doc. 247, 76th Cong., 1st Sess.
		DALLAS FLOODWAY EXTENSION, TX	
8	Oct. 27, 1965	Channel and SPF levees and the Trinity Navigation Project.	River and Harbor Act of 1965.
	Oct. 12, 1996	Levee credits.	WRDA 1996, Sec 351
	Aug. 17, 1999	Recreation and ecosystem restoration.	WRDA 1999, Sec 356
		FERRELLS BRIDGE DAM-LAKE O' THE PINES, TX	
9	Jul. 24, 1946	Provides for construction of an earth fill dam and reservoir area.	H. Doc. 602, 79th Cong., 2nd Sess.
		GRAPEVINE LAKE, TX	
10	Mar. 2, 1945	Construction of a dam on Denton Creek, a tributary of the Trinity River, about 20 miles northwest of Dallas, Texas.	H. Doc. 403, 77th Cong., 1st Sess.
		HORDS CREEK LAKE, TX	
11	Aug. 3, 1941	Construction of a dam on Hords Creek, a tributary of Pecan Bayou, near the city of Coleman, Texas.	H. Doc. 370, 76th Cong., 1st Sess.

TABLE 39-B - Authorizing Legislation

See Section in Text	Date Authorizing Act	Project and Work Authorized	Documents
		JIM CHAPMAN LAKE, TX	
12	Aug. 3, 1955	Construction of an earth fill dam and reservoir area.	H. Doc.488. 83rd Cong., 2nd Sess.
		JOE POOL LAKE, TX	
13	Oct. 27, 1965	Construction of a dam on Mountain Creek, adjacent to the city limits of Grand Prairie, Texas, about 3 miles above the existing Mountain Creek Dam.	H . Doc. 276, 89th Cong., 1st Sess.
		JOHNSON CREEK, ARLINGTON, TX	
14	Aug. 17, 1999	Project includes a buy-out of 140 structures for flood damage reduction, 155 acres of ecosystem restoration, and 2.25 miles of hard surface trail, picnic facilities and a pavilion.	PL 106-53, Sec. 101(b)(14)
		LAVON LAKE, TX	
15	Mar. 2, 1945	Construction of a dam on the East Fork of the Trinity River, about 22 miles northeast of Dallas, Texas	H. Doc. 533, 78th Cong., 2nd Sess.
		LAVON LAKE MODIFICATION AND EAST FORK CHANNELS IMPROVEMENT, TX	
16	Oct. 23,1962	Enlarge Lavon Dam and enlargement and realignment of the lower 25 miles of the East Fork of the Trinity River, including rehabilitation of existing levees.	H. Doc. 554, 87th Cong., 2nd Sess.
	Mar. 7, 1974	Improvement of Collin County Road 115.	
		LEWISVILLE DAM, TX	
17	Mar. 2, 1945	Construction of a dam on the Elm Fork of the Trinity River near the city of Lewisville, Texas.	H. Doc. 403, 77th Cong., 1st Sess.
		MILLICAN LAKE, TX	
18	Mar. 2, 1945 Sep. 3, 1954	Construction of a dam on the Guadalupe River about 12 miles northwest of New Braunfels, Texas.	H. Doc. 247, 76th Cong., 1st Sess.
		NAVARRO MILLS LAKE, TX	
19	Sep. 3, 1954	Construction of a dam on Richland Creek, a tributary of the Trinity River, about 16 miles southwest of Corsican Texas.	H. Doc. 498, 83rd Cong., 2nd Sess.
	Dec. 31, 1970	Alteration of FM Highway 3164 in Wolf Creek Park.	
		O.C. FISHER DAM AND LAKE, TX.	
20	Aug. 18,1941	Construction of a dam on the North Concho River just above San Angelo, Texas.	H. Doc. 315, 76th Cong., 1st Sess.

TABLE 39-B - Authorizing Legislation

See Section in Text	Date Authorizing Act	Project and Work Authorized	Documents
		PROCTOR LAKE	
21	Sep. 3, 1954	Construction of a dam on the Leon River about 8 miles northeast of Comanche, Texas.	H. Doc. 535, 81st Cong., 2nd Sess.
		RAY ROBERTS LAKE, TX	
22	Oct. 27,1965	Construction of a dam on the Elm Fork of the Trinity River between Sanger and Aubrey Texas, about 30 miles upstream from the existing Lewisville Dam.	H.Doc. 276, 89th Cong., 1st Sess.
		SAM RAYBURN DAM AND RESERVOIR	
35	Mar. 2, 1945	Construction of a dam on the Angelina River about 10 miles northwest of Jasper, Texas.	S. Doc. 98, 76th Cong., 1st Sess.
		SAM RAYBURN SPILLWAY (DAM SAFETY ASSURANCE), TX	
36	Mar. 2, 1945	Modification of the spillway and embankment	S. Doc. 98, 76th Cong., 1st Sess.
		SAN ANTONIO CHANNEL IMPROVEMENT, TX	
23	Sep. 3, 1954	Channel improvement of the San Antonio River and tributaries in and near the city of San Antonio, Texas.	H. Doc. 344, 83rd Cong., 2nd Sess.
		SAN GABRIEL RIVER PROJECT, TX	
24	Sep. 3, 1954 Jan. 3, 1975	Construction of: (1) a dam (Granger Dam and Lake) on the San Gabriel River about 7 miles east of Granger, Texas, (2) a dam (North Fork Lake) on the north Fork of the San Gabriel River about 3.5 miles northwest of Georgetown, Texas and (3) a dam (South Fork Lake) on the South Fork of the San Gabriel River about 3 miles southwest of Georgetown, Texas.	H. Doc. 535, 81st Cong., 2nd Sess. H.Doc. 591, 87th Cong., 2nd Sess.
		SOMERVILLE LAKE, TX	
25	Sep 3, 1954	Construction of a dam on Yegua Creek about 5 miles south of Somerville, Texas.	H. Doc. 535, 81st Cong, 2nd Sess
		STILLHOUSE HOLLOW DAM, TX	
26	Sep. 3, 1954	Construction of a dam on the Lampasas River about 5 miles southwest of Belton, Texas.	H. Doc. 535, 81st Cong., 2nd Sess.
		TOWN BLUFF DAM-B.A. STEINHAGEN LAKE, TX	
37	Mar. 2, 1945	Construction of a dam on the Neches River near Jasper, Texas.	S. Doc. 98, 76th Cong., 1st Sess.

TABLE 39-B - Authorizing Legislation

See Section in Text	Date Authorizing Act	Project and Work Authorized	Documents
		ROBERT DOUGLAS WILLIS HYDROPOWER, TX	
34	Mar. 2, 1945	Construction of two units at 3,000 kilowatts each of hydroelectric power generating facilities connected with Town Bluff-B.A. Steinhagen Lake, Texas.	S. Doc. 98, 76th Cong., 1st Sess.
		TRINITY RIVER PROJECT, TX	
1	Oct. 27, 1965	Construction of Tennessee Colony Dam located at river mile 339.2 on the Trinity River about 16 miles west of Palestine, Texas; a multiple purpose channel from the Houston, Texas ship channel to Fort Worth, Texas; a distance of approximately 363 miles, an extension of the existing Dallas, Texas, Floodway downstream approximately 9.0 miles; a realignment and enlargement of the West Fork of the Trinity River from the mouth of the West Fork to the existing Texas, Floodway, a distance of approximately 31 miles; and water conveyance facilities involving construction of about 98 miles of pipeline from Tennessee Colony Lake to the existing Benbrook Lake.	H. Doc. 276, 89th Cong., 1st Sess. H. Doc. 364, 90th Cong., 2nd Sess.
		WACO LAKE, TX	
27	Sep. 3, 1954	Construction of a dam on the northwest edge of Waco, Texas, below the confluence of the North, South and Middle Bosque Rivers	H. Doc. 535, 81st, Cong., 2nd Sess.
		WACO LAKE, TX (DAM AND SAFETY)	
28	Sep. 3, 1954	Modification of raising the dam crest.	H. Doc. 535, 81st Cong., 2nd Sess.
		WHITNEY LAKE, TX	
38	Aug. 18, 1941	Construction of a dam on the Brazos River about 19 miles southwest of Hillsboro, Texas. Raise the power pool 13.0 feet.	H. Doc. 390, 76th Cong., 1st Sess.
		WRIGHT PATMAN DAM AND LAKE, TX	
29	Jul.24, 1946	Construction of an earth-filled dam and reservoir.	H. Doc. 602, 79th Cong. 2nd Sess.

TABLE 39-C - Other Authorized Flood Control Projects

(See Section 31 of Text)

Project	For Last Full Report See Annual Report For	Cost to September 30, 2001 Construction	Operation and Maintenance
Beals Creek, Big Spring, TX[1]	2001	-	-
Belton Lake Hydropower Study, TX[5]	-	-	-
Belton Lake Modification, TX[3]	1988	-	-
Big Fossil Creek, TX[1]	1969	-	-
Big Sandy Lake, TX[5]	1986	-	-
Boggy Creek, Austin, TX[1]	1992	-	-
Brownwood Channel Improvement, TX[5]	-	-	-
Calloway Branch Hurst, TX[1]	1986	-	-
Carl L. Estes Dam and Lake, TX[5]	1979	-	-
Dam "A" Lake, TX[5]	1987	-	-
Duck Creek Channel Improvements, TX[5]	1983	-	-
Elm Fork Floodway, TX [5]	1987	-	-
Fort Worth Floodway (Clear Fork), TX[1]	1971	-	-
Fort Worth Floodway (West Fork), TX[1]	1971	-	-
Grand Prairie, TX (Landfill)[1]	1987	-	-
Grand Prairie, TX (Meyers Road)[1]	1989	-	-
Greenville, TX [1]	1983	-	-
Lake Brownwood Modification, TX[5]	1983	-	-
Lake Fork Lake, Sabine River, TX[5]	-	-	-
Lake Worth, Tarrant County, TX[4]	-	-	-
Millican, TX[2]	1988	-	-
Navasota Lake, Navasota River, TX[5]	-	-	-
Roanoke Lake, TX[5]	1979	-	-
Rockland Lake, TX[5]	1988	-	-
Rutledge Hollow Creek Channel Improvement, Poteet, TX[1]	1969	-	-
Sam Rayburn and Reservoir, TX (Dam Safety) [1]	2001	-	-
San Gabriel River, South Fork Lakes, TX[4]	-	-	-
Tarrant County, Tony's Marine Creek, TX[4]	-	-	-
Zacate Creek Channel, TX[1]	1983	-	-

[1]Completed [2]Inactive [3]Deferred [4]Recommended for Deauthorization [5]Deauthorized

TABLE 39-D - Inspection of Completed Flood Control Projects
(See Section 29 in Text)

Project, Location	Dates of Inspection
Arlington Landfill, Arlington, Texas	September 17, 2003
Beals Creek, Big Spring, Texas	August 15, 2003
Beltline Road Bridge, Richardson, Texas	September 8, 2003
Big Fossil Creek Floodway, Richland Hills, Texas	March 20, 2003
Boggy Creek Floodway, Austin, Texas	August 21, 2003
Calloway Branch Channel, Hurst, Texas	September 10, 2003
Calloway Branch, Airline Drive Park., Richland Hills, Texas	September 3, 2003
Cat Claw Creek Channel, Abilene, Texas	July 2, 2003
Dallas Floodway, Dallas, Texas	November 13, 2003
Delaware Branch, Irving, Texas	May 19, 2002
Dry Branch, Grand Prairie, Texas	July 16, 2003
Duck Creek, Garland, Texas	September 24, 2003
East Fork Floodway, Kaufman County, Texas	November 30, 1994
Fort Worth Floodway, Tarrant County, Texas	September 26, 2002
Grand Prairie Landfill, Grand Prairie, Texas	February 12, 2003
Hutton Branch, Carrollton, Texas	September 8, 2003
Johnson Creek Channel, Grand Prairie, Texas	June 24, 2003
Long Branch Channel, Greenville, Texas	September 9, 2003
Lorean Branch Channel, Hurst, Texas	September 10, 2003
McCoy Road Bridge, Carrollton, Texas	September 8, 2003
Meyers Road, Grand Prairie, Texas	February 12, 2003
Munday Floodway, Munday, Texas	December 17, 2002
Park Row Bridge, Arlington, Texas	September 17, 2003
Pleasanton Floodway, Pleasanton, Texas	September 2, 2003
Poteet Floodway, Poteet, Texas	September 2, 2003
Ridglea Country Club Drive Bridge, Fort Worth, Texas	January 15, 2003
Roaring Springs Road Bridge, Westover Hills, Texas	January 15, 2003
Rush Creek Channel, Arlington, Texas	September 17, 2003
San Antonio Floodway, San Antonio, Texas	August 26-27, 2003
San Antonio Tunnel, San Antonio, Texas	August 26-27, 2003
San Pedro Tunnel, San Antonio, Texas	August 26-27, 2003
Singing Hills Creek Channel, Watauga, Texas	September 10, 2003
Sulphur Branch Channel, Euless, Texas	December 18, 2002
Ten Mile Creek, Desoto, Texas	September 11, 2003
Waco Sewage Treatment Plant, Waco, Texas	August 7, 2002
Walnut Creek Channel, Seguin, Texas	April 7, 2003
West Fork Trinity River, River Oaks, Texas	July 9, 2003
Wheeler Creek Channel, Gainesville, Texas	June 12, 2002
Zacate Creek Floodway, Laredo, Texas	August 28, 2002

TABLE 39-E -Work Under Special Authorization
(See Section 32 of Text)

Project	Flood Control Activities	Section 205	Cost
Boyd Branch, Euless, TX			$ 724
Chacon Creek, Laredo, TX			37,240
Cienegas Creek, Del Rio, TX			39,617
Crystal Creek, Mineral Wells, TX			48,032
Farmers Branch, Tarrant County, TX			40,291
Lewis Creek, Bulverde, TX			42,212
Little Bear Creek, Euless, TX			369
Little Fossil Creek, Haltom City, TX			67,692
Pecan Creek, Gainesville, TX			92,133
Post Oak Creek, Corsicana, TX			61,374
Sulphur Creek, Lampasas, TX			21,232
Town Branch, Corsicana, TX			48,881
Section 205 Coordination Account			20,062

Project	Aquatic Ecosystem Restoration	Section 206	Cost
Applewhite Site, San Antonio, TX			$ 1,255
Concho River, Upper Colorado River Basin, TX			21,177
Cottonwood Creek, Arlington, TX			688
Lake Austin Ecosystem Restoration, Austin, TX			5,126
Lake Springfield, Groesbeck, TX			28,712
Olmos Creek Restoration, San Antonio, TX			55,745
Rio Grande Ecosystem Restoration, Laredo, TX			42,809
San Marcos River, San Marcos, TX			3,362
Spring Lake Aquatic Ecosystem Restoration, San Marcos, TX			47,731
Walnut Branch, Seguin, TX			75,277
WWTP, Meridian, TX			69,561
WWTP, Stephenville, TX			108,744
Section 206 Coordination Acct.			19,951

Project	Ecosystem Restoration	Section 1135	Cost
Beaver Pond, Hords Creek Lake, TX			$ 123
Big Cypress Bayou Fish & Wildlife Habitat, TX			14,224
Eagleland Restoration, San Antonio, TX			45,869
Joppa Preserve Restoration, TX			7,526
Lewisville Lake, Frisco, TX			25,314
Miller Springs Ecosystem Restoration, Belton, TX			207
O C Fisher Lake Ecosystem Restoration, TX			83,042
Old Trinity River Channel Wildlife Restoration, TX			17,879
Rush Creek, Tyler County, TX			37
Section 1135 Coordination Account			21,134

Project	Stream Bank Protection	Section 14	Cost
Boggy Creek, Austin, TX			$ 6,613
Brazos River, Waco Sewerage System, TX			22,398
Garner State Park, Uvalde, TX			95,708
Nokomis Road, Ten Mile Creek, Lancaster, TX			709
Wastewater Lift Station, Guadalupe River, Seguin, TX			39,785
Wastewater Plant, Intake Channel, Seguin, TX			28,917
Section 14 Coordination Acct.			15,040

GALVESTON, TX, DISTRICT

Galveston District comprises drainage basins of all short streams arising in coastal plain of Texas and flowing into the Gulf of Mexico, including the entire basin of Buffalo Bayou, San Jacinto, San Bernard, Lavaca, Navidad, Mission, and Aransas Rivers. It embraces Agua Dulce, San Fernando, and Olmos Creek Basins draining into Baffin Bay, and coastal area south thereof to the Rio Grande and east of western Boundary of Starr County, Texas. It includes lower basins of major streams flowing into the Gulf of Mexico: Sabine River, Texas and Louisiana, downstream from U.S. Highway 190 crossing at Bon Wier, Texas; Neches River downstream from Town Bluff gaging station; Trinity River downstream from Texas State Highway 19 crossing at Riverside, Texas; Brazos River downstream from confluence with Navasota River; Colorado River downstream from northern boundary of Fayette County; Guadalupe River downstream from confluence with San Marcos River; San Antonio River downstream from confluence with Escondido Creek; Nueces River downstream from confluence with Frio and Atascosa River.

IMPROVEMENTS

Navigation

1. AQUATIC PLANT CONTROL, TX (SOUTHWESTERN DIVISION) 1965 ACT

Location. Navigable waters, tributary streams, connecting channels, and other allied waters in Texas.

Previous project. For details see page 699 of Annual Report for 1963.

Existing project. A comprehensive project to provide for control and progressive eradication of water-hyacinth, alligatorweed, Eurasian watermilfoil, hydrilla, and other obnoxious aquatic plant growths, from navigable waters, tributary streams, connecting channels, and other allied waters in Texas in the combined interest of navigation, flood control, drainage, agriculture, fish and wildlife conservation, public health, and related purposes, including continued research for development of the most effective and economic control measures.

Control of water-hyacinth and alligatorweed has been approved for the Nueces River Basin, North Coastal Area, Guadalupe River Basin, Sabine River Basin, Trinity River Basin, Cypress Creek Basin, Neches River Basin, South Coastal Area, San Jacinto River Basin, Rio Grande Basin, Colorado River Basin and Brazos River Basin.

Control of hydrilla and watermilfoil is on a site by site basis after analysis and issuance of National Environmental Policy Act documentation

Local cooperation. Sec. 302, 1965 River and Harbor Act, amended by Water Resources Development Act of 1986, applies.

Operations during fiscal year. A new one-year cost-sharing, cost-reimbursable contract, with the options for an additional four years, has been negotiated with the State of Texas to maintain Program capabilities in the event of future funding. The contract was awarded February 15, 2001, and extended into FY 2003.

Work on an Environmental Assessment began in FY 2003 to add control of hydrilla to the Rio Grande Basin. In addition, the assessment adds giant salvinia and giant reed to the list of invasive aquatic plants to be treated, as well as all invasive aquatic plants included on the Texas Parks and Wildlife Department's list, which are torpedo grass, water spinach, giant duckweed, paper bark and water trumpet. The Environmental Assessment will be completed in Fiscal Year 04.

Cost incurred for fiscal year 2003 was $496,056.

2. BRAZOS ISLAND HARBOR, TX

Location. At extreme south end of coast of Texas, about 7 miles north of mouth of Rio Grande and about 5 miles east of Brownsville, Texas. (See National Ocean Survey Chart 11301.)

Previous project. For details see page 1017 of Annual Report for 1932.

Existing project. Provides for channel dimensions in various sections of the waterway as shown in Table 40-H.

Project also provides for dual jetties at the gulf entrance, a north jetty 6,330 feet long, a south jetty 5,092 feet long, and 1,000-foot extension to existing north jetty and for maintenance of 3rd fishing harbor constructed by local interests. Under ordinary conditions, mean tidal range is about 1.5 feet, and extreme range is about 2 feet. All depths refer to mean low tide. To some extent, height of tides is dependent on the wind, and during strong "northers" in winter season, water surface in southern end of Laguna Madre may be raised 4 feet or more above mean low tide in the gulf.

Widening Brownsville Channel from Goose Island to Brownsville turning basin and deepening southeast corner of Brownsville turning basin to 36 feet was completed in April 1980. The 1,000-foot extension to existing north jetty was deauthorized under Section 1001 of the Water Resources Development Act of 1986. The entrance channel was enlarged from 38 feet by 300 feet to 44 feet by 300 feet in FY 1992. Construction of an environmental mitigation site consisting of the creation of a 16-acre tidal wetland which included shoal grass and black mangroves, was completed in 1997. (See Table 40-G for total cost of existing project to September 30, 2003.)

Local cooperation. Fully complied with.

Terminal facilities. Numerous terminal facilities for bulk and liquid cargo are available. (See Port Series No. 26, revised 1991.) Facilities are adequate for existing commerce.

Operations during fiscal year. Maintenance: Routine maintenance required. (See Table 40-J for dredging operations.)

3. CEDAR BAYOU, TX.

Location. The bayou is about 30 miles long. It flows to the south and empties into northwest corner of upper Galveston Bay, about 1.5 miles below mouth of San Jacinto River and about 28.5 miles north of Galveston, Texas. (See National Ocean Survey Chart 11326.)

Previous project. For details see Annual Report for 1938.

Existing project. Project provides for a channel 10 feet by 100 feet from Houston Ship Channel to Bayou Mile 11.0. Channel was completed from Houston Ship Channel to first bend in Cedar Bayou above the mouth in 1931. Channel from Mile -0.1 to Mile 3.0 was completed in March 1975. Channel from 3.0 to Mile 11.0 was deauthorized under Sec. 12 of Public Law 93-251 and re-authorized in December 2000 under Sec. 349 (a)(2) of Public Law 106-541, the Water Resources Development Act of 2000. Project also includes jetties at mouth of bayou provided for under previous project.

Under ordinary conditions, mean tidal range is about 0.6 feet and extreme range 1.2 feet. Height of tides is dependent largely on the wind, and during strong "northers" in the winter season water surface may be depressed 2 feet below mean low tide. (See Table 40-G for total cost of existing project to September 30, 2003.)

Local cooperation. Fully complied with.

Terminal facilities. U.S. Steel Company has a barge dock at bayou mile 2.8, and there are a few small wharves, privately owned, for local use at various places along Cedar Bayou. Facilities are considered adequate for existing commerce.

Operations during fiscal year. Maintenance: No maintenance required for FY03.

4. CHANNEL TO PORT BOLIVAR, TX

Location. Port Bolivar is at end of Bolivar Peninsula and 4 miles north of city of Galveston. Channel connects the port with channel in Galveston Harbor. (See National Ocean Survey Chart 11324.)

Previous project. For details see page 1856 of Appendix to Annual Report for 1915.

Existing project. Existing project dimensions for channel are shown in Table 40-H. (Also see Table 40-B for authorizing legislation.)

Under ordinary conditions, mean tidal range is about 1.3 feet and extreme range 2 feet. Height of tides is dependent largely on the wind, and during strong "northers" in the winter season water surface may be depressed 2 feet below mean low tide. Enlargement of turning basin from 1,000 to 1,600 feet is inactive. A channel 14 feet deep, 200 feet wide, and approximately 950 feet long is maintained across the east end of the turning basin to accommodate the Galveston-Port Bolivar ferry. Project is complete except for inactive portion. Project dimensions have not been maintained in the completed part since lesser dimensions are adequate for existing commerce. (See Table 40-G for total cost of existing project to September 30, 2003.)

Local cooperation. None required.

Terminal facilities. Terminals are privately owned and consist of 2 slips and 2 piers. The piers, 400 feet wide by 1,200 feet long and 210 feet wide by 1,200 feet long, are badly deteriorated and not in use. The slips are used as anchorage by shallow-draft vessels. A highway ferry landing owned by the State of Texas is located at south end of turning basin. Facilities are considered adequate for existing commerce.

Operations during fiscal year. Maintenance: Routine maintenance. (See Table 40-J for dredging operations.)

5. CLEAR CREEK AND CLEAR LAKE, TX

Location. Clear Creek has its source about 18 miles south of Houston, Texas, and flows southeast for about 25 miles, emptying into west side of upper Galveston Bay at a point 24 miles north west of Galveston, Texas. (See National Ocean Survey Chart 11326.)

Existing project. Project provides for 1.5 miles of channel 7 feet by 75 feet from Galveston Bay to mouth of Clear Creek; 0.7 miles of channel 7 feet by 60 feet, known as North Fork Channel; and 7.7 miles of channel 7 feet by 60 feet through Clear Creek and Clear Lake. The project was completed in June 1950.

Under ordinary conditions, mean tidal range is about 0.8 foot and extreme range 1.4 feet. Height of tides is dependent largely on the wind, and during strong "northers" in the winter season water surface may be depressed 2 feet below mean low tide.

Local cooperation. Fully complied with.

Terminal facilities. Consist of small privately owned wharves, several ship repair yards and marinas which accommodate light commercial vessels and pleasure yachts. These are along lake shore and at towns of Seabrook and Kemah at mouth of creek. A commercial shell loading dock, located near League City at the head of NASA-Manned Spacecraft Center, has a barge dock along lake shore near their property.

Operations during fiscal year. Maintenance: No maintenance required for fiscal year.

6. CORPUS CHRISTI SHIP CHANNEL, TX

Location. This project, formerly known as Port Aransas-Corpus Christi Waterway, Texas, was changed to Corpus Christi Ship Channel, Texas, by 1968 River and Harbor Act. This is a consolidation of old improvements of Port Aransas, Texas, and channel from Aransas Pass to Corpus Christi, Texas. Aransas Pass is on southern portion of Texas Coast, 180 miles southwest of Galveston and 132 miles north of mouth of Rio Grande. Aransas Pass connects Corpus Christi Bay with the gulf. Waterway extends from deep water in the

gulf through Aransas Pass jettied entrance, thence westerly 20.75 miles to and including a turning basin at Corpus Christi, thence westerly 1.75 miles through Industrial Canal to and including turning basin at Avery Point, thence westerly 4.25 miles to and including a turning basin near Tule Lake, thence northwesterly 1.8 miles to and including a turning basin at Viola, Texas. (See National Ocean Survey Charts 11308, 11309, 11311, and 11314.)

Previous project. For details see page 1861 of Annual Report for 1915.

Existing project. (See Table 40-H for existing project dimensions provided for in various channels and basins comprising this waterway.)

Project also provides for two rubblestone jetties at Aransas Pass entrance, extending into the gulf from St. Joseph and Mustang Islands, project lengths of which are 11,190 and 8,610 feet, respectively. Project further provides for a stone dike on St. Joseph Island about 20,991 feet long, connecting with north jetty and extending up this island to prevent a channel being cut around jetty. Project also provides for a breakwater at the entrance to the harbor area at Port Aransas, and for the realignment of the existing 12-foot by 100-foot project channel to Port Aransas. The breakwater consists of two overlapping sections. The one on the east side of the realigned entrance channel has a length of 830 feet and the second, located on the west side of the entrance channel, has a length of 1,290 feet. The channel to Port Aransas was relocated in the 300-foot clear distance between the overlapping sections. The portion of the channel remaining inside the breakwaters was widened to 150 feet. Under ordinary conditions, mean tidal range at Aransas Pass is about 1.1 feet and extreme range about 2 feet, and at Corpus Christi mean range about 1 foot and extreme about 1.5 feet. Heights of tides are dependent largely on strength and directions of winds, and during strong "northers" in the winter season water surface may be depressed as much as 3 feet below mean low tide. Estimated cost for new work is: Federal (Corps) $74,938,515, including $456,515 for Port Aransas Breakwaters and exclusive of amount expended on previous projects: and non-Federal $18,977,431 (includes $768 for Port Aransas Breakwaters) including $7,644,435 contributed funds and value of useful work performed, $3,320,228 lands, $6,027,000 relocations and $1,985,000 other cost. (October 1, 1992 base price.)

The Port Aransas-Corpus Christi 40-foot project was completed in 1966. The Jewel Fulton Canal was completed in 1963. The Port Aransas Breakwaters were completed in July 1973. Deepening deep-draft channels to 45 feet from Tule Lake Turning Basin through Viola Turning Basin was completed in 1989, and constructing a mooring area at Port Ingleside with dolphins has been deferred. Entrance and jetty channels have been dredged to project depth and width, and dredging of channel from Harbor Island to and through the Chemical Turning Basin at 45-foot depth has been completed. Initial mooring dolphins were completed in May 1979. Disposal area levees, Area 1 and Rincon were completed in August 1984. First stage disposal area levees, South Shore, were completed in September 1984. Construction contract for mitigation terracing was completed in 1997. (See Table 40-G for total cost of existing project to September 30, 2003.)

Local cooperation. Fully complied with.

Terminal facilities. Terminal facilities on Harbor Island at head of Aransas Pass, Ingleside, Corpus Christi, La Quinta, Avery Point, and Viola, are considered adequate for existing commerce. (See Port Series, No. 25, revised 1993, Corps of Engineers.)

Operations during fiscal year. Maintenance: Routine maintenance. (See Table 40-J for dredging operations.)

7. DOUBLE BAYOU, TX

Location. Enters Trinity Bay on the east side about 30 miles north of Galveston and about 8.25 miles south of Anahuac, Texas.

Existing Project. Project provides for a channel 7 feet by 125 feet from the mouth of Double Bayou to the 7-foot contour in Trinity Bay, a length of 3.9 miles; and a channel, know as West Fork, 7 feet by 100 feet for a length of 2.0 miles. The project was completed in 1971.

Under ordinary conditions mean tidal range is about 0.5 feet and extreme range is about 1.2 feet. Height of tides is dependent largely on winds, and during strong north winds in the winter season, water surfaces may be depressed 1.5 feet below mean low tide. (See National Ocean Survey Chart 11326.)

Local cooperation. Fully Complied with.

Terminal facilities. Facilities are privately owned. At the mouth of the bayou is a timber wharf for loading oil barges. Between miles 1 and 1.5 above the mouth is a timber wharf, a boat slip, and a marine railway owned by the Brown and Root Corporation. At mile 3 above the mouth is a small depot for handling oyster shell. The facility consists of a timber bulkhead and hoppers for loading trucks. One-half mile above the mouth are several fishing vessel docks.

Operations during fiscal year. Maintenance: No maintenance required for FY03.

8. FREEPORT HARBOR, TX

Location. Formed by improvement of Brazos River, Texas, from mouth to about 6 miles upstream to Freeport, Texas. (See National Ocean Survey Charts 11321 and 11322.)

Previous projects. For details see page 1860 of Annual Report for 1915, and page 872 of Annual Report for 1938.

Existing project. Existing project dimensions for various channels and basins are shown in Table 40-H on channel dimensions at end of chapter.

Existing project also provides for dual jetties and a diversion canal for the Brazos River, including a dam, a lock in the dam and necessary auxiliary equipment. Also provides for rehabilitation of southwest jetty and the relocation of the northeast jetty (about 640 feet to the northeast); realignment of the channel between the Jetty Channel and Brazosport Turning Basin; realignment of the channel between Brazosport Turning Basin and Upper Turning Basin; relocation of Upper Turning Basin; and public use facilities adjacent to the Freeport Jetties. The 30-foot channel from Upper Turning Basin to Stauffer Chemical Plant, including the turning basin, was deauthorized by Sec. 12 of PL 93-251. Construction of lock in diversion dam at local expense is considered inactive.

The 38-36 foot project was completed in 1962. The 45-foot channel was completed in 1993 as follows: Relocation of the U. S. Coast Guard station was completed in May 1990; dredging the channel and turning basin to 36-feet and the Upper Turning Basin to 46-feet was completed in July 1990; dredging the jetty channel and the Lower Turning Basin was completed in November 1990; Construction of 3,700 feet of the North Jetty, was completed in March 1991; dredging the entrance channel was completed in April 1992; dredging the Main channel, Brazosport turning basin and jetty channel was completed in June 1992; construction of public use facilities, and grading and stone protection was completed in August 1992; and rehabilitation of the south jetty and addition of 500-feet to the north jetty was completed in May 1993. Channel adjustments to a bend near the project's main turning basin was completed in 1998 to provide full utilization of the 45-foot channel. Project is essentially complete. Construction of additional recreation features at Surfside by the Local Sponsor is the last remaining item. (See Table 40-G for total cost of existing project to September 30, 2003.)

Under ordinary conditions mean tidal range is about 1.5 feet and extreme range is about 2.5 feet. Except under extreme conditions, rises on river and in diversion channel do not cause greater variations in water surface than those caused by tidal action. Estimated cost of new work is: $63,707,000 Federal (Corps) and $470,000 Federal (USCG); and $32,313,000 non-Federal, including $21,302,000 contributed funds, $300,000 contributed work, $6,967,000 lands, $3,174,000 levees and spillways, and $570,000 relocations. (October 1, 1997 base price.)

Local cooperation. Fully complied with except for Section 101 of River and Harbor Act of 1970, under cost-sharing tenets of the Water Resources Development Act of 1986 and the Water Resources Development Act of 1996. Local Cooperation Agreement, executed June 26, 1986, along with Amendments 1, 2, 3, and 4 executed March 19, 1987; July 19, 1991; July 19, 1991; and July 15, 1997; respectively, require that local interest provide lands, easements, rights-of-way, including land for recreation, and dredged material disposal areas, presently estimated at $10,141,000, modify or relocate utilities, roads, and other facilities, except railroad bridges, where necessary for construction of the project, presently estimated at $570,000, contribute in cash one-half of the separable and joint costs allocated to recreation, presently estimated at $530,000; and, during construction, pay 25 percent of the construction costs allocated to deep-draft navigation, including disposal facility construction, presently estimated at $21,302,000.

Terminal facilities. Small privately owned wharves, two oil docks, one acid dock, two shell unloading docks and one caustic dock. Brazos River Navigation District has one large dock with four transit sheds over rail facilities permitting all-weather work. Facilities considered adequate for existing commerce. (See Port Series No. 26, revised 1991, for additional facilities.)

Operations during fiscal year. New Work: The construction contract to rehabilitate the North Jetty Walkway, awarded January 17, 2002, was completed in November 2002 at a cost of $274,012 Federal (Corps) and $87,487 non-Federal.

Maintenance: Routine maintenance. (See Table 40-J for dredging operations.)

9. GALVESTON HARBOR AND CHANNEL, TX

Location. A consolidation of authorized improvements at Galveston, Texas, which includes projects formerly identified as Galveston Harbor, Texas; Galveston Channel, Texas; and Galveston seawall extension. Entrance to Galveston Harbor is on the Gulf of Mexico on the northern portion of the Texas Coast. Galveston Channel extends from a point in Galveston Harbor between Bolivar Peninsula and Fort Point to and along wharf front Galveston, Texas, and is about 5 miles long and 1,200 feet wide. (See National Ocean Survey Chart 11324/5.)

Previous projects. For details see page 1854 of Annual Report for 1915.

Existing project. Provides for channel dimensions in sections of the waterway shown in Table 40-H.

Also provided are: two rubble-mound jetties, the south one extending from Galveston Island and the north one extending from Bolivar Peninsula, for distances of 35,900 feet and 25,907 feet, respectively, into the Gulf of Mexico; a concrete seawall from the angle at Sixth Street and Broadway, in the city of Galveston, to the south jetty, and a 16,300-foot extension of the concrete seawall in a southwesterly direction from 61st Street; for 11 groins along the gulf shore between 12th Street and 61st Street; and for maintenance of seawall from the angle at 6th Street and Broadway to the south jetty. Under ordinary conditions, mean tidal range in Galveston Harbor is 1.6 feet on outer bar and 1.4 feet on inner bar with extreme ranges of 2.3 and 2.1 feet, respectively. Mean range in Galveston channel is about 1.3 feet and extreme range about 2 feet under ordinary conditions. Height of tides in both Galveston harbor and channel is dependent largely on the wind, and during strong "northers" water surface may be depressed 2 feet below mean low tide.

Existing project is complete. Dredging of Galveston channel to 36-foot depth was completed in November 1966. Dredging of the realigned entrance and Outer Bar Channel was completed in October 1967. Rehabilitation of the Beach Front Groins was completed June 1970. Dredging of Galveston channel to 40 feet was completed in March 1976. See Section 16. TEXAS CITY CHANNEL, TX regarding work authorized by Water Resources Development Act of 1986, Section 11, HOUSTON-GALVESTON NAVIGATION CHANNELS, TX, for work authorized by the Water Resources Development Act of 1996. (See Table 40-G for total cost of existing project to September 30, 2003.)

Local cooperation. Complied with.

Terminal facilities. None on Galveston Harbor, which is entrance channel leading to terminal facilities on Galveston, Texas City, and Houston Ship Channels. Galveston Channel terminal facilities are mostly on south side of channel. Principal wharves, owned by the city of Galveston, extend from 10th to 41st Street (see Port Series No. 23, revised 1996). A container ship terminal equipped with a crane capable of stacking containers three units high on the deck of any normal container ship has been completed and placed into operation by the city of Galveston at Piers 10 and 11, on the south side of Galveston Channel. The city of Galveston has also placed into operation a barge terminal equipped with two 35-ton and one 5-ton cranes for loading and unloading barges on Lash and Seabee ships at Pier 35 and a docking and holding area for Lash and Seabee barges on Pelican Island, directly across the channel from Piers 35 and 36. Present facilities are considered adequate for existing commerce.

Operations during fiscal year. New Work: See Section 11, HOUSTON-GALVESTON NAVIGATION CHANNELS, TX.

Maintenance: Routine Maintenance. Also see Section 11, HOUSTON-GALVESTON NAVIGATION CHANNELS, TX. (See Table 40-J for dredging operations.)

10. GULF INTRACOASTAL WATERWAY BETWEEN APALACHEE BAY, FL, AND THE MEXICAN BORDER

Location. Extends from a point on Sabine River about 3 miles below Orange, Texas, to Brownsville, Texas, about 421 miles; a navigation channel, about 7 miles long, in Colorado River, extending from Matagorda, Texas, to Gulf of Mexico; a tributary channel in San Bernard River, extending from Intracoastal Waterway crossing to State highway bridge some 30 miles above crossing; a tributary channel in Colorado River extending from Intracoastal Waterway upstream 15.5 miles; a tributary channel extending about 14 miles from Intracoastal Waterway to Palacios, Texas; a tributary channel extending about 2 miles from Intracoastal Waterway to Rockport, Texas; a tributary channel extending about 6 miles from Intracoastal Waterway near Port Aransas, Texas, to town of Aransas Pass, Texas; a tributary channel about one-fourth mile long extending from Intracoastal Waterway near Port O'Connor, Texas, into Barroom Bay; a tributary channel extending about 38.8 miles from Intracoastal Waterway via Seadrift to a point in Guadalupe River 5.5 miles below Victoria, Texas; a harbor of refuge for small craft at Seadrift; a channel extending from gulf to Port Mansfield, Texas, about 11 miles; and a tributary channel in Arroyo, Colorado extending from Intracoastal Waterway to a point near Harlingen, Texas, about 31 miles; side channels in vicinity of Port Isabel, Texas, and a small boat basin at Port Isabel, Texas, and a tributary channel extending from Intracoastal Waterway main channel at a point in West Galveston Bay into Offatts Bayou about 2.2 miles with a west turnout (wye connection) 12 feet deep and 125 feet wide between Offatts Bayou Channel and the Gulf Intracoastal Waterway. (See National Ocean Survey Charts 11302, 11303, 11305, 11306, 11308, 11309, 11314, 11315, 11317, 11319, 11322, 11326, and 11331.)

Previous project. For details see page 1859 of Annual Report for 1915. (West Galveston Bay and Brazos River Canal, Texas.)

Existing project. Existing project dimensions provided for in main channel of waterway: A channel 12 feet deep (below mean low tide) and 125 feet wide

from the Sabine River to Brownsville, Texas. Relocation of channel 12 feet deep by 125 feet wide in Matagorda Bay, miles 454.3 to 471.3, relocation of channel 12 feet deep by 125 feet wide in Corpus Christi Bay, miles 539.4 to 549.7 (mileage is west of Harvey Lock, Louisiana); and alternate channel, 12 feet deep (below mean low tide) and 125 feet wide via Galveston Channel and Galveston Bay to the Galveston causeway; maintenance of existing channel 12 feet deep by 125 feet wide through Lydia Ann Channel, between Aransas Bay and Aransas Pass; provisions of such passing places, widening of bends, locks and guard locks, railway bridges over artificial cuts as are necessary, and the tributary channels shown in tabulation. The authorized channel 16 feet deep and 125 feet wide from Sabine River to Houston Ship Channel is inactive. (See Table 40-I on existing project dimensions provided for in tributary channels.)

Removal of the railroad bridge across the canal at Mud Bayou was completed and operation and care of the facility was discontinued on April 14, 1969. Deepening the existing 6 foot by 60 foot side channels at Port Isabel to 12 feet was completed February 22, 1972, Offatts Bayou channel was completed January 1974. Relocation of main channel across Corpus Christi Bay was completed in September 1976. The 14-foot by 175 foot Channel to Aransas Pass was completed in April 1979. Dredging Chocolate Bayou Channel was completed in January 1981. Construction of a saltwater barrier in Chocolate Bayou was completed in February 1981. The 12-foot by 125-foot channel relocation route in Matagorda Bay has been deauthorized. The Harbor of Refuge at Seadrift, Texas, has been placed in the inactive category.

Mouth of Colorado River: Construction of jetties at mouth of Colorado River was completed in 1986. Construction of a navigation channel from the Gulf to the GIWW and an impoundment basin were completed in 1991. Construction of Tiger Island Dam and recreation facilities were also completed in 1991. Construction of the recreation facilities at Jetty Park was completed in 1992. Construction of the diversion dam and connecting channel was completed in 1993. Construction of the oyster cultch was completed in 1995.

Brazos River Floodgates- Major Rehabilitation: Major rehabilitation of the East Floodgate Guidewalls was completed in 1997. The cost of rehabilitation was $2,750,000 Federal (Corps) and $2,750,000 Federal (Inland Waterways Trust Fund).

Sargent Beach: Work authorized by the Water Resources Development Act of 1992 for construction of a concrete-pile and concrete block revetment structure, which extends 8 miles to protect the Gulf Intracoastal Waterway was completed in 1998. Construction cost was $29,460,000 Federal (Corps) and $29,460,000 Federal (Inland Waterways Trust Fund).

Aransas National Wildlife Refuge: Work authorized by the Water Resources Development Act of 1996 provides for erosion protection and limited spill containment for the existing alignment of the Gulf Intracoastal Waterway and includes marsh creation with beneficial uses of dredged material along a 31-mile reach of the waterway which crosses the critical wintering habitat of the rare and endangered whooping crane, including a 13.25 mile reach within the boundary of the Aransas National Wildlife Refuge. This area is located approximately 35 miles northeast of Corpus Christi, Texas in Aransas and Calhoun Counties. The project was completed in 2001. Construction costs were $14,123,500 Federal (Corps).

Work remaining:

Active authorized work remaining consists of the work authorized by the Water Resources Development Act of 1988 for enlarging the existing Channel to Victoria from a depth of 9 feet and width of 100 feet to a depth of 12 feet and width of 125 feet. (See Table 40-G for total cost of existing project to September 30, 2003.)

Mean tidal variation is 0.5 foot at Orange, 1 foot at Port Arthur, 1.3 feet in Galveston Bay, 1.5 feet at Freeport, 1 foot in Matagorda Bay, 1 foot in San Antonio Bay, 1 foot at Corpus Christi, 1.5 feet at Port Isabel, and 1.5 feet at Brownsville. Extreme ranges of tide under ordinary conditions are 1 foot at Orange, 1.5 feet at Port Arthur, 2 feet in Galveston Bay, 2 feet at Freeport, 1.5 feet in Matagorda and San Antonio Bays, 1.5 feet at Corpus Christi, 2 feet at Port Isabel, and 1.5 feet at Brownsville. Height of tides is dependent largely on wind. Strong north winds have depressed water surface as much as 2 feet below mean low tide.

Estimated cost for new work is:

Channel to Victoria - $31,686,000 Federal (Corps), $422,000 Federal (Department of Transportation), $62,000 Federal (U.S. Coast Guard), and $6,530,000 non-Federal consisting of $3,521,000 cash, $1,646,000 lands, and $1,363,000 levees and other associated costs. (October 1, 2002 base prices.)

Local cooperation. Fully complied with except for provisions of Section 101, 1968 River and Harbor Act and Water Resources Development Act of 1988. The Project Cooperation Agreement for Channel to Victoria was executed November 17, 1994.

Terminal facilities. There are terminal facilities at Aransas Pass, Port Arthur, Galveston, Port Isabel, and Brownsville. See Port Series No. 22 (revised 2001), Port Series No. 23 (revised 1996), Port Series No. 25 (revised 1993) and Port Series No. 26 (revised 1991), Corps of Engineers. Local interests constructed terminal

facilities at Port Mansfield and Port Harlingen. There are numerous privately owned piers and wharves along the waterway. A 330-foot navigation district owned general cargo dock, a 770-foot private dock and a 760-foot private timber trestle have recently been completed at the upper end of the Channel to Victoria. Facilities are adequate for existing commerce.

Operations during fiscal year.

New Work: -

Channel to Victoria - The construction contract awarded September 20, 2000, for dredging Stations 1300+00 to 1841+21.69 was completed in 2003 at a fiscal year cost of $333,925. A construction contract to construct a new mitigation feature and repair an existing one was awarded September 2002. Work continued through FY 2003 at a cost of $117,170.

Prehistoric archeological site 41VT98 on the Channel to Victoria has produced artifacts dating from 1,000 to 12,000 years old, and a large Early Archaic cemetery dating from 5,000 to 7,000 years old. Analysis of the 41VT98 artifacts and mortuary remains is ongoing in accordance with the approved treatment plan.

Maintenance: -

Main Channel and Tributaries - The cost incurred for 2003 for Dredged Material Management Plans was $298,589 for Corpus Christi to Port Isabel. Erosion protection for levees along the Gulf Intracoastal Waterway was performed during FY 03 for the following reaches:

South $1,904,045

High Island to Bastrop Bayou - $1,281,770

(See Table 40-J for dredging operations.)

Aransas National Wildlife Refuge – No maintenance required in FY 03.

Brazos River Floodgates - The Brazos River Floodgates were operated and maintained at a cost of $1,282,211.

Channel to Victoria – Routine maintenance. (See Table 40-J for dredging operations.)

Colorado River Locks - The Colorado River Locks were operated and maintained at a cost of $1,313,850.

Channel to Port Mansfield – No maintenance required for FY03.

Chocolate Bayou – No maintenance required for FY03.

Mouth of Colorado River – Routine maintenance. (See Table 40-J for dredging operations.)

11. HOUSTON-GALVESTON NAVIGATION CHANNELS, TX

Location. Houston Ship Channel connects Galveston Harbor, at a point opposite Port Bolivar, with city of Houston, Texas, extending 50 miles northwesterly across Galveston Bay through San Jacinto River and Buffalo Bayou to a turning basin at head of Long Reach with light-draft channel 5 miles long from turning basin to Jensen Drive, Houston. The entrance to Galveston Harbor and Channel is on Gulf of Mexico on the northern portion of the Texas Coast. Galveston Channel extends from a point in Galveston Harbor between Bolivar Peninsula and Fort Point to and along wharf from Galveston, Texas and is about 5 miles long and 1,200 feet wide. (See National Ocean Survey Charts 11324/5, 11327, 11328, and 11329.)

Existing project. See Section 9, GALVESTON HARBOR AND CHANNEL, TX and Section 12, HOUSTON SHIP CHANNEL, TX for project prior to October 1998. New authorized project provides for enlarging the Houston Ship Channel to a depth of 45 feet and a width of 530 feet. The Galveston Channel will be enlarged to a dept of 45 feet over a width which varies between 650 and 1,112 feet, and deepening the Galveston Harbor Channel to 47 feet (45-feet authorized and 2 feet for dredging inaccuracies and wind impact) over its original 800-foot width and 10.5 mile length; and extending the channel an additional 3.9 miles to the 47-foot bottom contour in the Gulf of Mexico along existing alignment. A dredged-material disposal plan, which would utilize confined or beneficial uses of dredged material in the bay and/or offshore disposal and 118 acres of Oyster mitigation is also provided in the project.

Energy and Water Development Appropriations Act of 2001, Section 1(a)(2) of Public Law 106-377 authorized construction of barge lanes. Barge lanes will be constructed on the sides of the Houston Ship Channel to a depth of 12 feet and a distance of 500 feet from the centerline of the channel from Bolivar Roads to Morgan's Point, a distance of approximately 26 miles. Fifty-four acres of oyster reef will be impacted and will be mitigated.

Estimated cost for new work is: $419,577,000 Federal (Corps) which includes $94,950,000 for deferred environmental construction; $4,267,000 Federal (U.S. Coast Guard); and $147,429,000 non-Federal consisting of $74,747,000 cash, $1,061,000 lands, and $60,000 relocations for general navigation features; $9,896,000 for berthing areas; and $61,665,000 cash for environmental restoration which includes $31,650,000 for deferred environmental construction. (October 1, 2003 base price.)

The first construction contract to dredge the Entrance Channel Extension, awarded August 7, 1998,

was completed in 1999. The contract for dredging the entrance channel and jetty area was completed in March 2000. The Oyster Reef Mitigation for the main channel was completed in July 2000. Construction of the Lower Bay reach was completed in March 2001. A contract for Mid Bay was awarded September 8, 2001 and work continued through FY 2003. The construction contract for Redfish Island was awarded March 29, 2002 and construction was completed October 1, 2002. A contract for Mid Bayou (Goat Island) was awarded September 20, 2002, and work continued through FY 2003. The Lower Bayou contract had the NTP issued on April 28, 2000 and work continued through FY 2003. Remaining work consists of completing construction of the Mid Bay and Mid Bayou (Goat Island) reaches, redredging of the Jetty and Entrance Channels and portions of Mid-Bay, Upper Bay, and Upper Bayou reach to reestablish the proper channel depth to allow it to be opened up to 45-foot traffic and creation of marsh sites at Lower Bay, Mid Bay and Upper Bay disposal areas, and creation of barge lanes and mitigation.

Also, the Project Cooperation Agreement and an evaluation of the Economic Benefits for the Galveston Channel remain to be accomplished.

Local cooperation. Complied for the completed work. For the Houston-Galveston Navigation Channels project, authorized by the Water Resources Development Act of 1996, the cost-sharing and financing concepts reflected in the Water Resources Development Act of 1986, as amended, apply. Local interests are required to provide lands, easements, rights-of-way, roads and other facilities, except railroad bridges; pay one-half of the separable and joint costs allocated to recreation; and pay 25 percent of the costs allocated to deep-draft navigation, during construction including in-kind work in connection with construction; and pay an additional 10 percent of the costs allocated to navigation within a period of 30 years following completion if not offset by credit allowed for lands, easements, rights-of-way, and relocations.

The Port of Houston Authority and the City of Galveston are the sponsors for the project. A Project Cooperation Agreement with the Port of Houston Authority was executed on June 10, 1998. The Project Cooperation Agreement with the City of Galveston is pending.

Terminal facilities. See Section 9, GALVESTON HARBOR AND CHANNEL, TX and Section 12, HOUSTON SHIP CHANNEL, TX.

Operations during fiscal year. New Work: The contract to dredge Lower Bayou, awarded April 21, 2000, was stopped in October 2001 and resumed in FY 2003 for a cost of $9,937,078. The Mid Bay construction contract, awarded September 28, 2001, continued through FY 2003 at a cost of $34,597,136. A contract for Redfish Island, awarded March 29, 2002 was completed in FY03 for a final cost of $409,663. The Mid Bayou (Goat Island) contract, awarded September 20, 2002 continued through FY03. Cost incurred for FY03 was $16,101,773. Geotubes were placed along Bolivar Marsh in FY03 at a cost of $585,269.

Maintenance: See Section 9, GALVESTON HARBOR AND CHANNEL, TX and Section 12, HOUSTON SHIP CHANNEL, TX for maintenance of existing channels. (See Table 40-J for dredging operations.)

12. HOUSTON SHIP CHANNEL, TX

Location. Connects Galveston Harbor, at a point opposite Port Bolivar, with city of Houston, Texas, extending 50 miles northwesterly across Galveston Bay through San Jacinto River and Buffalo Bayou to a turning basin at head of Long Reach with light-draft channel 5 miles long from turning basin to Jensen Drive, Houston. (See National Ocean Survey Charts 11324/5, 11327, 11328, and 11329.)

Previous project. For details see page 1856 of Annual Report for 1915.

Existing project. Provides for channel dimensions in sections of the waterway shown in Table 40-H.

Also provides for certain cut-offs, for easing sharp bends, an earthen dam across the upper end of Turkey Bend, and for off-channel silting basins as deemed necessary by the Chief of Engineers. Construction of 26,000 linear feet of pile dike to protect the channel in upper Galveston Bay was deauthorized by Sec. 12 of PL 93-251. The 40-foot project was completed in March 1966. Dredging a channel in Greens Bayou to Mile 1.57 was completed in 1970. Dredging Greens Bayou, Mile 1.57 to Mile 2.73, has been deauthorized. See Section 11, HOUSTON-GALVESTON NAVIGATION CHANNELS, TX for work authorized by the Water Resources Development Act of 1996. (See Table 40-G for total cost of existing project to September 30, 2003.)

Mean tidal range under ordinary conditions is 0.6 foot to 1.3 feet in lower part of Galveston Bay; 0.6 foot to 1.3 feet in upper bay; and 0.5 to 1 foot in San Jacinto River and Buffalo Bayou. Extreme ranges under ordinary conditions are about 2 feet, 1.2 feet and 1 foot, respectively. Freshets caused rises of over 12 feet in Buffalo Bayou; however, this condition has not occurred since completion of Addicks and Barker Dams for flood control on upper watershed of Buffalo Bayou. Height of tides is dependent largely on the wind, and during strong “northers” in winter season, the water surface may be depressed 2 feet below mean low tide.

Local cooperation. Fully complied with for Houston Ship Channel. Local Cooperation Agreement

for assumption of maintenance on Bayport Ship Channel was executed April 6, 1993. Local Cooperation Agreements for assumption of maintenance on Barbour Terminal Channel and Greens Bayou Channel were both executed on February 8, 1994.

Terminal facilities. City of Houston and Port of Houston Authority operate modern terminals which supplement privately owned wharves, piers, and docks, as described in Port Series No. 24 (revised 1999), Corps of Engineers. Facilities are considered adequate for existing commerce.

Operations during fiscal year. New Work: See Section 11, HOUSTON-GALVESTON NAVIGATION CHANNELS, TX.

Maintenance: A contract to rehabilitate the House Tract Placement Area was awarded September 27, 2003 and continued through FY03 at a cost of $2,562,000. Routine dredging maintenance. (See Table 40-J for dredging operations.) Also, see Section 11, HOUSTON-GALVESTON NAVIGATION CHANNELS, TX.

13. MATAGORDA SHIP CHANNEL, TX

Location. This is a consolidation of shallow draft channel improvements of "Channel from Pass Cavallo to Port Lavaca, Texas," and deep draft channel improvements authorized under "Matagorda Ship Channel, Texas." Bar at Pass Cavallo is 125 miles southwest of Galveston entrance and 54 miles north of Aransas Pass. It connects Matagorda Bay with the gulf. Project extends across Matagorda Bay and Lavaca Bay to towns of Port Lavaca and Point Comfort. These two towns are on opposite sides of Lavaca Bay and both are about 26 miles northwest from Pass Cavallo. (See National Ocean Survey Chart 11316.)

Existing project. Existing project dimensions provided for in various channels and basins are listed in Table 40-H on channel dimensions.

Project also provides for dual jetties at entrance, south jetty extending 6,000 feet to 24-foot depth in the gulf and north jetty extending 5,900 feet to 24-foot depth. Under ordinary conditions mean tidal range is about 1 foot and extreme range about 2 feet. Height of tide is dependent largely on the wind, and during strong "northers" in the winter season, the water surface may be depressed 2 feet below mean low tide. (See Table 40-G for total cost of existing project to September 30, 2003.)

Local cooperation. Fully complied with.

Terminal facilities. Privately owned facilities at Port Lavaca, municipally owned facilities at mouth of Lynn bayou, privately owned and publicly owned facilities at Point Comfort, Texas. These facilities are considered adequate for present commerce. Facilities at Point Comfort consist of a channel, turning basin with wharfs, oil dock and loading equipment, all owned by Aluminum Company of America; and a wharf built by local interest at Point Comfort turning basin.

Operations during fiscal year. Maintenance: Routine maintenance. (See Table 40-J for dredging operations.)

14. NECHES RIVER AND TRIBUTARIES, SALT WATER BARRIER AT BEAUMONT TX

Location. The project is located just below the Big Thicket National Preserve and the confluence of Pine Island Bayou and the Neches River at Beaumont, Texas, in Jefferson and Orange Counties on the upper coast of Texas. (See National Ocean Survey Chart 11343.)

Existing project. The project will provide for an overflow dam in the Neches River, a gated salt water barrier consisting of five 56 feet by 24.5 feet tainter gates; a gated navigation bypass channel with a clear opening of 56 feet and a depth of 16 feet; an access road and levee; and an auxiliary dam across a canal which drains an adjacent bayou. Estimated cost for new work is $43,064,000 Federal (Corps) and $14,355,000 non-Federal consisting of $8,435,000 contributed funds, $1,800,000 for lands, $4,120,000 for relocations. (October 1, 2002 base price.)

The project was authorized for construction in the Water Resources Development Act of 1976 (Sec. 102, PL 94-587). The construction contract was awarded September 18, 2000 and work continued through FY 02.

Local cooperation. Local Sponsor for the project is the Lower Neches Valley Authority. Report of the Chief of Engineers for the Water Resources Development Act of 1976 authorization cited a 1974 Waterways Experiment Station report, which concluded that 75 percent of the salinity in the Neches River at Beaumont was due to the Federal deep draft navigation project to Beaumont and 25 percent was due to withdrawals by water users. From 1994 to 1996, the Corps reevaluated the project which resulted in a May 1997 decision by the Assistant Secretary of the Army (Civil Works), to direct that the project go forward with 75 percent Federal / 25 percent non-Federal cost-sharing as a navigation mitigation project. In October 1999, the Assistant Secretary of the Army (Civil Works) issued a decision stating that operations and maintenance will also be cost-shared as 75 percent Federal and 25 percent non-Federal. A Project Cooperation Agreement was executed on May 22, 2000.

Terminal facilities. None.

Operations during fiscal year. New Work: The contract to construct the saltwater barrier and the other project features, awarded September 18, 2000, continued

through FY 03. Cost incurred for the fiscal year was $7,188,511. Three utility relocation contracts were issued and completed in FY 02. Financial adjustments of these contracts were incurred in FY 03 as follows:

Dixie Pipeline Co. - $76,542

Entergy Services, Inc. – (-) $119,193

El Paso Energy Intrastate, L.P. - $46,972

A fourth utility relocation contract was completed in FY 03 as follows:

Dow/Cayouse $1,090,000

15. SABINE-NECHES WATERWAY, TX

Location. This is a consolidation of old improvements of "Harbor at Sabine Pass and Port Arthur Canal" and "Sabine-Neches Canal, including Sabine River to Orange and Neches River to Beaumont, Texas." Sabine Pass is on Gulf of Mexico about 58 miles east of Galveston and 280 miles west of Southwest Pass, Mississippi River. It connects Sabine Lake with gulf. Port Arthur canal extends 7 miles from near upper end of Sabine Pass to Port Arthur docks at mouth of Taylors Bayou. Near its upper end, Sabine-Neches canal joins and extends to mouths of Neches and Sabine Rivers. Waterway next extends up Neches River to Beaumont and up Sabine River to Orange. (See National Ocean Survey Charts 11341, 11342, and 11343.)

Previous projects. For details see page 1863 of Annual Report for 1915, page 985 of Annual Report for 1916, and page 873 of Annual Report for 1926.

Existing project. Existing project dimensions provided for in various channels and basins are set forth in Table 40-H on channel dimensions. Project also provides for two stone jetties at Sabine Pass entrance from the gulf, western jetty to be 21,905 feet long and eastern jetty 25,310 feet long. Project further provides for removal of guard lock in Sabine-Neches Canal, construction of suitable permanent protective works along Sabine Lake frontage owned by city of Port Arthur to prevent dredged material from entering Sabine Lake and to prevent erosion of material deposited, reconstruction of Port Arthur Bridge, and relocation of Port Arthur field office. Mean tidal variation at entrance is about 1.5 feet, at Port Arthur about 1 foot, and at Orange and Beaumont about 0.5 foot. Prolonged north winds during winter season have depressed water surface as much as 3.4 feet below mean low tide while tropical disturbances have caused heights as much as 8 feet above mean low tide.

Existing project is complete. Removal of obstructive bridge at Port Arthur was completed May 1969. The high level fixed bridge across Sabine-Neches Canal was completed October 1970. Deepening project to 40 feet was completed April 1972. (See Table 40-G for total cost of existing project to September 30, 2003.)

Local cooperation. Complied with.

Terminal facilities. See volume 2, Port Series No. 22 (revised 2001), Corps of Engineers. Facilities are considered adequate for present commerce.

Operations during fiscal year. Maintenance: Routine Maintenance. Mosquito control spraying was performed in FY 03 for $26,635. (See Table 40-J for dredging operations.)

16. TEXAS CITY CHANNEL, TX

Location. Texas City is on the mainland of Texas on west side of Galveston Bay, about 10 miles northwest of city of Galveston. (See National Ocean Survey Charts 11324/5.)

Previous projects. For details see page 1856 of Annual Report for 1915.

Existing project. Provides for channel 40 feet deep, 400 feet wide and about 6.75 miles long, from Bolivar Roads to a turning basin at Texas City, 40 feet deep, 1,000 feet to 1,200 feet wide and 4,253 feet long; and an Industrial Canal, 40 feet deep and 300-400 feet wide extending a distance of 1.7 miles southwestward from the south end of Texas City Turning Basin, and a turning basin, 40 feet deep, 1,000 feet wide and 1,150 feet long.

Project also provides for easing the approach to the turning basin; a pile dike 28,200 feet long, parallel to and north of the channel; and a rubble-mound dike, 27,600 feet long, along the southerly side of the pile dike.

The 40-foot channel was completed in June 1967. Widening the Texas City Turning Basin; realigning the Texas City Turning Basin to a location 85 feet easterly from its present position; and enlargement through widening and deepening of the Industrial Canal and basins was initiated in July 1980 and completed in June 1982. The only work remaining is deferred construction consisting of widening the Industrial Canal from 250 feet to 300 feet at 40 foot depth.

Work authorized by Water Resources Development Act of 1986 would modify the project by providing for deepening the Texas City Turning Basin to 50 feet, enlarging the 6.7-mile long Texas City Channel to 50 feet by 600 feet, deepening the existing 800-foot wide Bolivar Roads Channel and Inner Bar Channel to 50 feet, deepening the existing 800-foot wide Outer Bar and Galveston Entrance Channel to a 52-foot depth for 4.1 miles at a width of 800 feet and an additional reach at a width of 600 feet to the 52 foot contour in the Gulf of Mexico. Establishment of 600 acres of wetland and development of water-oriented recreational facilities on

a 90-acre enlargement of the Texas City Dike are also proposed. The project is currently under reevaluation. (See Table 40-G for total cost of existing project to September 30, 2003.)

Under ordinary conditions mean tidal range is about 1.3 feet and extreme range is about 2 feet. Height of tide is dependent largely on the wind and during strong "northers" water surface may be depressed 2 feet below mean low tide. Estimated cost for new work is $123,300,000 Federal (Corps), excluding expenditures on previous projects, and $74,393,700 non-Federal, including $62,027,741 contributed funds, $248,000 work contribution, $427,959 lands, $10,737,000 levees and spillways, $6,000 for removal of barge mooring facilities from Shoal Point (formerly known as Snake Island), $561,000 for berthing areas, and $386,000 relocations. (October 1, 1988 base price.)

Local cooperation. Fully complied with for completed work. For work authorized by the Water Resources Development Act of 1986, as amended, local interests are required to provide lands, easements, rights-of-way, and disposal areas; relocate utilities, roads, and other facilities, except railroad bridges; provide berthing areas; pay one-half of the separable and joint costs allocated to recreation; and bear all costs of operation, maintenance and replacement of recreation facilities, and, during construction, pay 25 percent of the costs allocated to deep-draft navigation to a depth of 45 feet plus 50 percent of the costs allocated to deep-draft navigation deeper than 45 feet; pay an additional 10 percent of the costs allocated to deep-draft navigation within a period of 30 years following completion if not offset by credit allowed for lands, easements, rights-of-way, relocations and disposal areas; and pay 50 percent of the costs incurred for operation and maintenance below the 45-foot depth.

Terminal facilities. Privately owned terminal facilities are on the mainland at inner end of this channel and are considered adequate for existing commerce. A deep-draft channel and turning basin extend about 1.9 miles southwestward from south end of Texas City Turning Basin have been constructed by local interests. See Port Series No. 23 (revised 1996), Corps of Engineers.

Operations during fiscal year. Maintenance: No maintenance required for FY03.

17. TRINITY RIVER AND TRIBUTARIES, TX

Location. The main stem of the Trinity River is formed at Dallas by the confluence of the West Fork and the Elm Fork at river mile 505.5. The mouth of the Trinity is about one-half mile west of Anahuac, Texas. (See Geological Survey base map, Texas, scale 1:500,000.)

Previous project. For details of abandoned locks and dam construction see page 986 of Annual Report for 1933.

Existing project. See individual detailed reports on Anahuac Channel, Channel to Liberty and Wallisville Lake. Project includes the existing Federal project designated as "Mouth of Trinity River, Texas," which was completed in 1907 at a cost of $80,000 (no cost to local interest). Project is not being maintained. (See Table 40-G for total cost of existing project to September 30, 2003.)

Local cooperation. See individual detailed reports on Channel to Liberty and Wallisville Lake. There is no local cooperation required for Anahuac Channel.

Terminal facilities. Privately owned wharves and piers at Anahuac, Moss Bluff, Wallisville, and Liberty, Texas, are adequate for existing commerce.

17A. ANAHUAC CHANNEL, TX

Location: Extends from 6-foot depth in Galveston Bay to Anahuac, Texas, opposite mouth of Trinity River 38 miles north of Galveston, Texas. (See National Ocean Survey Chart 11323.)

Existing project. No project dimensions authorized by 1905 River and Harbor Act. A 6- by 80-foot channel, 16,000 feet long was dredged in 1905. At present a 6- by 100-foot channel is maintained. Under ordinary conditions tidal range is 0.6 to 1.2 feet. Height of tide is dependent largely on wind. Strong north winds depress water surface 1.5 feet below mean sea level. Latest published map is in House Document 440, 56th Congress, 1st Session. Project was completed in 1911.

Local cooperation. None required.

Terminal facilities. Privately owned wharves and piers are the only terminal facilities at Anahuac.

Operations during fiscal year. Maintenance: No work was incurred during the fiscal year.

17B. CHANNEL TO LIBERTY, TX

Location. Improvement is located in Galveston Bay and tidal reach of lower Trinity River. (See Geological Survey Maps for Anahuac, Cove, Moss Bluff, and Liberty, Texas.)

Previous projects. For details see page 986 of Annual Report for 1932.

Existing project. Provides for a 6-foot channel from Anahuac to Liberty, which was completed in 1925. A navigable channel from the Houston Ship Channel near Red Fish Bar in Galveston Bay to Liberty, Texas, with depth of 9 feet and width of 150 feet, extending along the east shore of Trinity Bay to the mouth of the

Trinity River at Anahuac, thence in the river channel to a turning basin at Liberty, Texas, and a protective embankment along the west side of the channel in Trinity Bay.

The 6-foot Channel to Liberty was completed in 1925. The 9-foot Channel to Liberty has been dredged from junction with Houston Ship Channel to a point one mile below Anahuac, Texas. Work remaining consists of dredging a 9- by 150-foot channel from one mile below Anahuac, Texas to Liberty, Texas.

Local cooperation. Fully complied with for portion of "Channel to Liberty" between Houston Ship Channel and 1 mile below Anahuac, Texas, as required by 1946 River and Harbor Act (H. Doc. 634, 79th Cong., 2nd Sess.), but not complied with for remaining portion of "Channel to Liberty" as required by River and Harbor Act of 1945 (H. Doc. 403, 77th Cong., 1st Sess.).

Terminal facilities. Privately owned wharves and docks at Anahuac, Wallisville, Texas Gulf Sulphur Co.'s slip, Moss Bluff and Liberty, Texas, are adequate for existing commerce.

Operations during fiscal year. Maintenance: No maintenance required for FY03.

17C. WALLISVILLE LAKE, TX

Location. Dam is at river mile 3.9, about 4 miles northwest of Anahuac, Texas. (See National Ocean Survey Chart 11323.)

Existing project. Provides for construction of a dam and overflow spillway approximately 8 miles long to prevent salinity intrusion and create a 3,800 acre reservoir. The maximum pool elevation will be 2 feet above National Geodetic Vertical Datum. (The reservoir was reduced from 5600 acres with a maximum pool elevation of 4 feet N.G.V.D. by agreement to protect the endangered bald eagle.) Project provides for an 84 foot by 600-foot navigation lock to facilitate navigation on Channel to Liberty. The sill has a depth of minus 16 feet below National Geodetic Vertical Datum. Project also provides for two recreational areas; and three water control structures to control salinity intrusion and regulate freshwater flows to the saltwater marsh west of the river. Dam controls a drainage area of 1,262 square miles below Livingston Dam (non-Federal project at channel mile 99.2) and has a storage capacity of 14,000 acre-feet. Under ordinary conditions mean tidal range in bay is from 0.6 foot to 1.2 feet. Height of tide is dependent largely on wind. Strong northerly winds depress water surface 1.5 feet below mean sea level. Total estimated cost of authorized project is $81,200,000 Federal (Corps). (October 1, 2000 base price.)

A contract for construction of access road, Big Hog intake structure, intake canal and access bridge was completed in October 1968. Work started in July 1970 on construction of the lock and dam, roads, diversion channel, and navigation channel. Work was suspended in February 1973 because of an injunction halting construction. Protective work on the lock and dam was permitted and was completed in April 1973. An exception to the injunction was granted for plugging oil wells, which was completed in August 1973. Notice of appeal to the Court of Appeals for the Fifth Circuit was filed in April 1973. In August 1974, the Court of Appeals reversed the judgment and remanded the case with directions that a revised or supplemental statement be prepared and judged anew. Final supplement to the Environmental Impact Statement for the modified project authorized in the Supplemental Appropriations Act, 1983 (PL 98-63) was submitted to the Environmental Protection Agency on September 21, 1983.

In March 1986, the Court rendered its Memorandum of order continuing the injunction and directing the Corps to recommence the administrative process at the time when the first departure from standard NEPA procedures occurred prior to the 1983 legislative action. The Corps and Local Sponsors perfected an appeal to the U.S. Court of Appeals and on May 11, 1987, the Court of Appeals ruled in favor of the Corps and dismissed the suit in its entirety.

The Energy and Water Development Appropriation Act of 1991 provided $9,200,000 for the project and directive language for continuation of construction.

In the fall of 1989, a pair of bald eagles was discovered nesting at the project site, which led to additional consultation under the Endangered Species Act. Solicitation of the contract for the non-overflow dam was postponed to allow for environmental coordination. An Environmental Assessment was prepared with a Finding of No Significant Impact (FONSI), which was signed in September 1991. Environmental documents were approved and construction was resumed.

A contract to rehabilitate and complete the navigation lock, complete the North and South navigation channels, construct a new administrative/resident office building, and electrical and mechanical equipment controls for the controlled spillway structure was awarded in December 1995 and completed in FY 99. A dedication ceremony for the Wallisville Lake Project was held on November 1, 1999.

Construction of Control Structure A was completed in February 2000 and Cedar Hill Park was completed in October 2000. In 2001 remediation of the abandoned dam, removal of skimmers, repairs to the West-Non-Overflow dam and construction of public-use facilities were completed.

Site improvements consisting of replacement of timbers, construction of a boat ramp and dock, new fencing, walkways and improvements to parking lots were completed in 2003. The project is essentially complete.

Local cooperation. Local interest must contribute an amount equal to cost allocated to water supply, one-half of cost allocated to salinity control and cost allocated to recreation less cost of basic facilities and less 15 percent of total project cost. Local interest reimbursement is estimated at $12,200,000.

Operations during fiscal year. New Work: The construction contract for site improvements, awarded September 18, 2002 was completed in 2003 at a cost of $1,044,696. These improvements consisted of new fencing, gates, walkways, site furnishings, parking, striping, drinking fountains, boat ramps and docks. The contract for constructing public use facilities, awarded September 17, 2002, also completed in FY 03. Cost incurred was $865,420.

Maintenance: The Wallisville Lake Project was turned over for permanent operations at the beginning of FY 00. The project was operated and maintained at a cost of $1,118,309.

18. RECONNAISSANCE AND PROJECT CONDITION SURVEYS

Reconnaissance and condition surveys were conducted in FY 2003 at a total cost of $30,192.

19. NAVIGATION WORK UNDER SPECIAL AUTHORIZATION

Navigation activities pursuant to Section 107, Public Law 86-645 (preauthorization):

Initial coordination for Section 107 navigation activities was performed in FY 03 at a cost of $10,125.

A Milestone Report was completed in June 2002 on Galveston Island Channel for the extension of a shallow draft channel on the west end of Galveston Channel. Project estimated cost is $6.5 million which exceeds the Continuing Authorities Programs' limit by $2.5 million. Project is on hold at the City of Galveston Harborside Management District's (the project sponsor) request.

Mitigation of shore damages attributable to navigation projects pursuant to Section 111, Public Law 90-483:

No mitigation of shore damages studies was performed in FY 2003.

Shore Protection

20. NATIONAL EROSION CONTROL DEVELOPMENT AND DEMONSTRATION PROGRAM , JEFFERSON COUNTY, TX

Location. The project location fronts the McFadden National Wildlife Refuge in the vicinity of Sea Rim State Park in Jefferson County, Texas. Beaches at the demonstration consist of a thin veneer of sand over mud and the average long-term annual erosion rate is approximately 5 feet.

Existing Project. The primary objectives of the project are to minimize erosion of the cohesive sediment and to minimize sand overwash. These objectives will be accomplished by constructing experimental low-volume beach nourishment templates contained by geotextile tube groin cells and dune construction. The 2,500 ft-long dune is designed to withstand a 5-year return period storm. Fronting half of the engineered dune corridor is a beach nourishment divided into four experimental cells of varying fill volumes and grain sizes. A geotextile tube groin separates each experimental cell. Estimated cost of new work is $1,231,222 Federal (Corps).

Local Cooperation. A Memorandum of Agreement (MOA) has been executed with the Texas General Land Office (GLO). The project is awaiting a Coastal Lease Permit from GLO.

Operation During Fiscal Year. Construction is anticipated in 2004 along with initial project monitoring

Flood Control

21. BUFFALO BAYOU AND TRIBUTARIES, TX

Location. Improvements are on Buffalo Bayou watershed, a part of San Jacinto River watershed, in Harris County, west and northwest of city of Houston, Texas. (See Geological Survey quadrangle sheets for Harris County.)

Existing project. Provides for improvements of Buffalo Bayou and its tributaries above turning basin of Houston Ship Channel to control floods for protection of city of Houston, and prevent deposition of silt in turning basin of ship channel by construction of detention reservoirs, enlargement and rectification of channels and construction of control works.

Channel rectification on Brays Bayou with an improved channel length 25.4 miles was completed in March 1971. Channel rectification on White Oak Bayou was completed in 1976. Work remaining consists of

rectification of approximately 22 miles of main stem of Buffalo Bayou.

See individual detailed reports on Addicks and Barker Reservoirs; and Brays, Greens, Halls, Hunting, Little White Oak, and Carpenters Bayous.

Local cooperation. Section 203, 1954 Flood Control Act applies. Local interests have accomplished all required local cooperation on Brays Bayou and White Oak Bayou. On Buffalo Bayou, local interests purchased interests that the United States had in 7 miles of rectified channel below Barker and Addicks Dams for $256,651. Of the remaining required rights-of-way on Buffalo Bayou, local interests have acquired about 40 percent. About 53 percent of required bridge relocations and 3 percent of the required bridge relocations have been accomplished. Advance of $4,400,000 by the Harris County Flood Control District was refunded in September 1956. Public Law 86-53 authorized reimbursement of $38,726 to Galveston, Houston and Henderson Railroad Company for bridge alterations at Brays Bayou. Non-Federal contributions totaled $63,661 for project betterment. Recreation development is subject to conditions of non-Federal cost sharing under Federal Water Project Recreation Act of 1965.

See individual detailed reports on Addicks and Barker Reservoirs; and Brays, Greens, Halls, Hunting, Little White Oak, and Carpenters Bayous.

21A. ADDICKS AND BARKER RESERVOIRS, TX

Location. Reservoirs are located in and west of the City of Houston in Harris and Fort Bend Counties, Texas.

Existing project. Construction of Barker Dam was complete in February 1945. Construction of Addicks Dam and 7.4 miles of channel rectification downstream from Addicks and Barker Dams was completed in October 1948. Modification of Barker and Addicks Dams consisting of gating the final two uncontrolled conduits in each dam, was complete in 1963. Major rehabilitation of Addicks and Barker Dams to prevent seepage through the embankment was completed in 1982.

Work under the Dam Safety Assurance program was initiated in Fiscal Year 1986. Work accomplished included raising approximately 32,400 feet of Addicks Dam 1 to 3 feet and raising approximately 57,600 feet of Barker Dam 3 to 5 feet and armor-plating low ends of both dams. A contract with the city of Houston for cost sharing in the construction of recreation facilities was entered into in November 1981. The lease for approximately 10,534 acres of land and water areas was approved in February 1983.

Local cooperation. None required.

Operations during fiscal year. Recreation: Community Park West (Phase IB) and the velodrome were completed in 1986 and remain in use. Community Park West (Phase 4) and the development of Community Park 2 (soccer fields, ball fields, and parking lots) were completed by the City of Houston in 1992. Harris County Precinct 3 completed building additional soccer fields in Community Park 2 in George Bush Park. The Fort Bend County YMCA pavilion, archery range, and nature trails in Barker Reservoir are being heavily used along with the City of Houston's Cullen Park, Harris County's George Bush Park, and Fort Bend County's Cinco Ranch Park. Maintenance and improvements of these recreation areas continue by all agencies.

Maintenance: Continued operations with project personnel. The contract for road and ramp repairs to the tops of the dams, awarded March 30, 2001, was completed in FY03 at a fiscal cost of $180,477. The contract for monitoring roller compacted concrete for determination of causes for movement was completed at a cost of $698,250.

The project is estimated to have prevented damages of $2,045,691,000 through September 2003. During Fiscal Year 2003, the project prevented $385,000,000 in damages.

21B. BRAYS BAYOU

Location. The project is located in the south-central portion of Buffalo Bayou, Harris County, TX.

Existing project. The authorized plan of improvement consists of 3 miles of stream improvements, 3 flood detention basins, and 7 miles of stream diversion channels. Aesthetic vegetation is included. Recreation facilities include trails, picnic facilities, sports fields, comfort stations and parking areas. The estimated cost for new work is $292,469,000 Federal (Corps) and $162,323,000 non-Federal consisting of $25,175,000 cash contributions, and $137,148,000 for lands and relocations (October 2003 base price).

The project was authorized for construction in the Water Resources Development Act of 1990 (PL 101-640). In 1995, the project was divided into two separable elements, an Upstream (detention) Element (stream improvements and detention basins) and a Downstream (diversion) Element. The Local Sponsor was authorized to develop the project and design and construct an alternative to the diversion component and be reimbursed for the Federal share by the Water Resources Development Act of 1996 (PL 104-303). Construction funds were received in 1998.

Location cooperation. Local Sponsor for the project is Harris County Flood Control District. Local Sponsor is required to provide lands, easements, and rights-of-way; modify or relocate buildings, pipelines, utilities, roads and other facilities, except for railroad bridges; pay five percent of the total costs allocated to flood control presently estimated at $25,175,000 and bear all costs of operation, maintenance, and replacement of flood control and recreation facilities. A Project Cooperation Agreement for the Upstream (detention) element was executed March 3, 2000.

Operations during fiscal year. New Work: Construction by the Local Sponsor of the Detention Element is currently underway. A reimbursement to Harris County Flood Control District for Segment 6 of the Sam Houston Detention Basin, Compartment 4, Phase 1 was made in the amount of $3,780,085.

In accordance with Section 211 of the Water Resources Development Act of 1996, the sponsor is investigating the Downstream (diversion) Element in an effort to find an alternative to the authorized project.

21C. GREENS BAYOU

Location. The project is located in the north-central portion of Buffalo Bayou, Harris County, TX, and does not include the Halls Bayou tributary.

Existing project. The project was authorized for construction in the Water Resources Development Act of 1990 (PL 101-640). The authorized project provides for 25 miles of stream enlargement, 14 miles of stream cleaning and 4 flood detention basins. Aesthetic vegetation and mitigation is included. Recreation facilities include trails, picnic facilities, sports fields, launches, ramps, comfort stations and parking areas. The project is currently being reformulated and a new project has been identified in a Great Reevaluation Study. The new project will consist of approximately 3.2 miles of stream enlargement in the upper reaches of the bayou between Veterans Memorial Drive and Cutten Road. A flood detention basin will be located near the downstream terminus of the stream enlargement. Aesthetic vegetation is included. Recreation facilities are not currently included in the project as a local sponsor has not been confirmed. The estimated cost for new work is $171,123,000 Federal (Corps) and $101,666,000 non-Federal consisting of $16,142,000 cash contributions, and $85,524,000 for lands and relocations (October 2002 base price).

Local cooperation. Local Sponsor for the project is Harris County Flood Control District. Local Sponsor is required to provide lands, easements, and rights-of-way; modify or relocate buildings, pipelines, utilities, roads and other facilities, except for railroad bridges; provide a cash contribution presently estimated at $16,142,000 and bear all costs of operation, maintenance, and replacement of flood control and recreation facilities.

Operations during fiscal year. New Work: See Section 39, PRE-CONSTRUCTION ENGINEERING AND DESIGN.

21D. HALLS BAYOU

Location. Halls Bayou is a major tributary of Greens Bayou, located in the north-central portion of Buffalo Bayou, Harris County, TX.

Existing project. The authorized plan of improvement consists of 18 miles of stream improvements. Recreation facilities include trails, picnic facilities, boat ramps, a comfort station and parking areas. The estimated cost for new work is $75,955,000 Federal (Corps) and $55,578,000 non-Federal consisting of $8,434,000 cash contributions, and $47,144,000 for lands and relocations (October 2002 base price).

The project was authorized for construction in the Water Resources Development Act of 1990 (PL 101-640).

Local cooperation. Local Sponsor for the project is Harris County Flood Control District. Local Sponsor is required to provide lands, easements, and rights-of-way; modify or relocate buildings, pipelines, utilities, roads and other facilities, except for railroad bridges; provide a cash contribution presently estimated at $8,434,000 and bear all costs of operation, maintenance, and replacement of flood control and recreation facilities.

Operations during fiscal year. New Work: Project is awaiting Pre-construction Engineering and Design funds.

21E. HUNTING BAYOU

Location. Hunting Bayou is located in Houston, approximately 4 to 5 miles from the central business district.

Existing project. The authorized plan of improvement consists of 14.3 miles of stream improvements. Recreation facilities include trails, picnic facilities, a comfort station and parking areas. The estimated cost for new work is $77,273,000 Federal (Corps) and $67,615,000 non-Federal consisting of $7,764,000 cash contributions, and $59,851,000 for lands and relocations (October 2003 base price).

The project was authorized for construction in the Water Resources Development Act of 1990 (PL 101-640). The Local Sponsor was authorized to design and construct an alternative to the project and be reimbursed for the Federal share by the Water Resources Development Act of 1996 (PL 104-303).

Local cooperation. Local Sponsor for the project is Harris County Flood Control District. Local Sponsor is required to provide lands, easements, and rights-of-way;

modify or relocate buildings, pipelines, utilities, roads and other facilities, except for railroad bridges; provide a cash contribution presently estimated at $7,764,000 and bear all costs of operation, maintenance, and replacement of flood control and recreation facilities.

Operations during fiscal year. New Work: Construction funds were received in 2003 to begin construction of the project. See Section 39, PRE-CONSTRUCTION ENGINEERING AND DESIGN.

21F. LITTLE WHITE OAK BAYOU, TX

Location. Little White Oak Bayou is a tributary of White Oak Bayou in north-central Houston.

Existing project. The authorized plan of improvement consists of 6.0 miles of stream enlargements. Recreation facilities include trails and picnic facilities. The estimated cost for new work is $17,958,000 Federal (Corps) and $17,957,000 non-Federal consisting of $1,996,000 cash contributions, and $15,961,000 for lands and relocations (October 1990 base price).

The project was authorized for construction in the Water Resources Development Act of 1990 (PL 101-640).

Local cooperation. Local Sponsor for the project is Harris County Flood Control District. Local Sponsor is required to provide lands, easements, and rights-of-way; modify or relocate buildings, pipelines, utilities, roads and other facilities, except for railroad bridges; provide a cash contribution presently estimated at $1,996,000 and bear all costs of operation, maintenance, and replacement of flood control and recreation facilities.

Operations during fiscal year. New Work: Project is awaiting Pre-construction Engineering and Design funds.

21G. CARPENTERS BAYOU, TX

Location. Carpenters Bayou is a tributary of Buffalo Bayou in northeastern Houston.

Existing project. The authorized plan of improvement consists of 9.7 miles of stream enlargements. Recreation facilities include trails and picnic facilities. The estimated cost for new work is $3,900,000 Federal (Corps) and $1,950,000 non-Federal consisting of $370,000 cash contributions, and $2,320,000 for lands and relocations (October 1990 base price).

The project was authorized for construction in the Water Resources Development Act of 1990 (PL 101-640).

Local cooperation. Local Sponsor for the project is Harris County Flood Control District. Local Sponsor is required to provide lands, easements, and rights-of-way; modify or relocate buildings, pipelines, utilities, roads and other facilities, except for railroad bridges; provide a cash contribution presently estimated at $370,000 and bear all costs of operation, maintenance, and replacement of flood control and recreation facilities.

Operations during fiscal year. New Work: Project is awaiting Pre-construction Engineering and Design funds.

22. BUFFALO BAYOU, TX (LYNCHBURG PUMP STATION)

Location. The project is located 10 miles east of Houston, Texas near the entrance to the Houston Ship Channel.

Existing project. The Lynchburg Pump Station is to be protected by a flood barrier encircling the facility. A plan consisting of a combination sheet pile wall and earth levee is recommended. Total barrier length is approximately 2000 feet. The Crosby-Lynchburg Road will be rerouted to the top of the levee.

Local cooperation. The Coastal Water Authority, owned by the City of Houston, is the Local Sponsor of the project. The Project Cooperation Agreement was executed June 26, 2002.

Operation during the fiscal year. The construction contract, awarded September 10, 2002, continued through FY 03 . Cost incurred on the contract for was $4,370,055.

23. CLEAR CREEK, TX

Location. The project is located about midway between the two metropolitan centers of Houston, Texas, on the north and Galveston-Texas City on the south in Harris and Galveston Counties above and below existing Clear Lake.

Existing project. The authorized plan of improvement consists of an improved channel from Mile 3.8 to Mile 34.8 to contain within its banks all flood flows up to and including that of a 100-year flood. The selected plan provides channel enlargement and easing of bends within the existing stream from Mile 3.8 to Mile 26.05 to contain at least the 10-year frequency storm, and additional outlet with gated structure from Clear Lake to Galveston Bay, restriction of development in the residual 100-year flood plain and measures to mitigate environmental effects. In 1986, at the request of Brazoria County Drainage District No. 4, that portion of the project upstream of the Brazoria/Galveston County line, approximate improved Mile 19.1, was placed in the "inactive" category. Estimated cost for new work, excluding "inactive" portion, is $84,970,000 Federal (Corps) and $57,426,000 non-Federal consisting of $7,119,000 cash contributions, $22,600,000 for lands, and $27,707,000 for relocations (October 1, 2003 base price).

Environmental interest groups and agencies, private citizens, and some local communities located near or adjacent to Clear Lake expressed opposition to the Clear Creek Flood Control Project as currently authorized and planned for upstream reaches. In general, the opposition to the project has been focused on environmental concerns in the upstream reaches and on induced flooding concerns downstream in Clear Lake. Construction has been delayed at the request of the Local Sponsor so that an alternative to the authorized project can be developed that will reduce above concerns and still provide flood protection to those that are critically affected by flood waters in the watershed.

Local cooperation. Local Sponsors for the project are Galveston and Harris counties. The Local Cooperation Agreement, executed June 30, 1986, requires local interests to provide lands, easements, rights-of-way, and material disposal areas; modify or relocate building, pipelines, utilities, roads and other facilities, except railroad bridges, where necessary in the construction of the project; make a cash contribution for mitigation measures consistent with the non-Federal share of total project costs without mitigation measures; pay five percent of the total costs allocated to flood control; and bear all costs of operation and maintenance of flood control facilities.

Operations during fiscal year. Preparation of the General Reevaluation Report (GRR) continued. Work on plan formulation, engineering analysis, socioeconomic analysis, real estate analysis, and environmental studies continued.

24. CYPRESS CREEK, TX

Location. The project is located north of Houston, Texas in Harris County.

Existing project. The authorized plan of improvement consists of enlargement of the lower 29.4 miles of the Cypress Creek Channel, incorporating grassed side slopes and channel bottom and appropriate erosion control measures; application of floodplain management techniques in the residual floodplain; construction of project-oriented recreation features, including 11.5 miles of hike-and-bike trails and related facilities for health, safety, and public access; and habitat management measures on 844 acres of Harris County Parkway land, creation of wooded and brush habitat along 100 acres of the project right-of-way, acquisition of 329 acres of wildlife habitat along the creek, and creation of 35 acres of ponds and marshes. The authorized plan is no longer under consideration. The revised project consists of removing the 34 homes where inhabitants are at or below the five-year flood level. A Section 215 Agreement was executed January 5, 2000 enabling the Harris County Flood Control to implement the project as quickly as possible and once the Project Cooperation Agreement (PCA) was executed and funds appropriated for construction. The sponsor began acquiring homes in June 1999 and began demolition of the structures in February 2000. Estimated cost for the new plan is $4,463,000 Federal (Corps) and $1,487,000 non-Federal contribution. (October 1, 1999 base price.)

Local cooperation. Local Sponsor for the project is Harris County. The non-Federal share of the cost of non-structural flood control measures shall be 25 percent of the cost of such measures. The non-Federal interests for any such measures shall be required to provide all lands, easements, rights-of-way, and relocations necessary for the project, but shall not be required to contribute any amount in cash during construction of the project. The Project Cooperation Agreement was executed on January 18, 2001.

Operations during fiscal year. New work: Harris County Flood Control District completed the non-structural buy-out in September 2001. Funds in the amount of $3,571,755 were reimbursed to the Sponsor in FY 02, and the remaining $300,244 were reimbursed upon resolution of the audit.

25. LOWER RIO GRANDE BASIN, TX

Location. The project is located in Willacy, Hidalgo, and Cameron Counties. The basin is bounded on the east by the Gulf of Mexico, on the south by the Rio Grande, which forms the international boundary between the United States and Mexico, on the west by Starr County, and on the north by Brooks and Kenedy Counties.

Existing project. See individual detailed reports on Arroyo Colorado, South Main Channel, and Raymondville Drain.

Local cooperation. See individual detailed reports on Arroyo Colorado, South Main Channel, and Raymondville Drain.

25A. ARROYO COLORADO, TX

Location. The project is located in Hidalgo and Cameron Counties, Texas.

Existing project. The authorized project will provide flood protection along Highway 83 and erosion protection for the banks of the Arroyo Colorado in the city of Harlingen. The project consists of a gated water control structure, 1.4 miles of channel improvements, and stone armoring of selected reaches in Harlingen. The estimated cost for new work is $5,851,000 Federal (Corps) and $1,951,000 non-Federal consisting of $1,848,000 cash and $103,000 for lands and relocations (October 1, 1993 base prices).

The project has reached a stalemate as the Local Sponsor, the Hidalgo County Drainage District #1, cannot provide required guarantee to hold and save the Government free from all damages arising from the construction, operation, maintenance, repair and replacement for the project, nor are they able to operate and maintain the project when completed. The International Boundary and Water Commission has complete jurisdiction over the project, as it is one of the elements of the Rio Grande Floodway System. The Commission is interested in the project but only if additional funds to do operations and maintenance are provided. Legislative approval will be required to alter the current status.

Local cooperation. Local Sponsor, the Hidalgo County Drainage District #1, is required to provide lands, easements, and rights-of-way; modify or relocate buildings, pipelines, utilities, roads and other facilities, except for railroad bridges; provide a cash contribution presently estimated at $1,848,000 and bear all costs of operation, maintenance, and replacement of flood control facilities.

Operations during fiscal year. None.

25B. SOUTH MAIN CHANNEL, TX

Location. The project is located in Hidalgo and Willacy Counties, Texas.

Existing project. The authorized project consists of channel improvements that will provide flood protection to the city of Lyford, as well as the rural area of Willacy County north of U.S. Highway 83. The authorized plan is currently being revised to reflect a smaller project and will include construction of new channels only in Willacy County, and a local protection project for Lyford.

The estimated cost for new work is $141,442,000 Federal (Corps) and $75,207,000 non-Federal consisting of $10,832,000 cash and $28,107,000 lands and $36,268,000 relocations (October 1, 2002 base prices).

Local cooperation. Originally the Local Sponsors for the project were Hidalgo County Drainage District #1 and Willacy County Drainage District #1. Late in Fiscal Year 1999, Hidalgo County Drainage District #1 withdrew support of the project. In August 1999, Willacy County Drainage District #1 restated their intent to cost-share in project construction.

Local Sponsor is required to provide lands, easements, and rights-of-way; modify or relocate buildings, pipelines, utilities, roads and other facilities, except for railroad bridges; provide a cash contribution presently estimated at $10,832,000 and bear all costs of operation, maintenance, and replacement of flood control facilities.

Operations during fiscal year. New Work: See Section 39, PRE-CONSTRUCTION ENGINEERING AND DESIGN.

25C. RAYMONDVILLE DRAIN, TX

Location. The project is located in northern Hidalgo and Willacy Counties, Texas.

Existing project. The authorized project will provide a drainage outlet to the Laguna Madre for northern Hidalgo and Willacy Counties. The project consists of 43.8 miles of channel work, including enlargement of existing channels and construction of new channels, a 3.88-mile long levee, and diversion ditches along the west side of Raymondville. The estimated cost for new work is $64,687,000 Federal (Corps) and $21,562,000 non-Federal consisting of $7,150,000 cash and $6,142,000 lands and $8,270,000 relocations (October 1, 2002 base prices).

Local cooperation. Local Sponsor for the project is Hidalgo County Drainage District #1. Local Sponsor is required to provide lands, easements, and rights-of-way; modify or relocate buildings, pipelines, utilities, roads and other facilities, except for railroad bridges; provide a cash contribution presently estimated at $8,270,000 and bear all costs of operation, maintenance, and replacement of flood control facilities.

Operations during fiscal year. New Work: See Section 39, PRE-CONSTRUCTION ENGINEERING AND DESIGN.

26. SIMS BAYOU, TX

Location. The project is located in Harris County, in the southern portion of Houston, Texas.

Existing project. The authorized plan of improvement provides for enlargement and rectification, with appropriate erosion control measures, of 19.3 miles of Sims Bayou to provide 25-year flood protection; environmental measures and riparian habitat improvement along the entire alignment; and recreational development to include 14 miles of hike-and-bike trails connecting to existing public parks, together with picnic, playground, and other leisure facilities. Estimated cost for new work is $233,197,000 Federal (Corps) and $113,021,000 non-Federal consisting of $20,501,000 cash contributions, $39,988,000 for lands, $52,216,000 for relocations and $317,000 for channels (October 1, 2003 base price).

Local cooperation. Local Sponsor for the project is Harris County Flood Control District. In accordance with the cost-sharing and financing concepts reflected in the Water Resources Development Act of 1986, local interests are required to provide lands, easements, and rights-of-way; modify or relocate buildings, pipelines, utilities, roads, and other facilities, except railroad

bridges, where necessary for the construction of the project; pay one-half of the separable and joint costs allocated to recreation; and bear all costs of operation, maintenance and replacement of recreation facilities; and pay 5 percent of the costs allocated to flood control; and bear all costs of operation, maintenance and replacement of flood control facilities. The Local Cooperation Agreement for flood control was executed on October 19, 1990. The recreation Local Project Agreement is currently under review by the City of Houston.

Operations during fiscal year. New Work: The construction contract for channel rectification from Swallow to Hemingway, awarded July 19, 1996, was physically completed in January 1999, and financially completed in FY03 with a final cost of $34,125. Construction contract for channel rectification from Mykawa to Cullen, awarded April 1, 1999, continued through FY 03 at a cost of $59,693. A construction contract for Channel rectification at Mouth to Port Terminal Railroad, Station 9+00 to 52+52, awarded June 30, 2000, continued through FY 03 at a cost of $1,456,359. Channel rectification contract for the Swallow to Northdale reach, awarded December 29, 2000, continued through FY 03. Cost incurred for FY 03 was $672,498. A construction contract for channel rectification downstream of Cullen to State Highway 288, awarded September 13, 2002, continued through FY03 at a cost of $7, 354,392. A contract to modify the baffle drainage structure in the Hemingway to Swallow reach was awarded June 13, 2002 and completed in FY 03. Cost incurred for FY 03 was $204,961.

Reimbursement was made to the Local Sponsor, Harris County Flood Control District, for their work on the reach from Port Terminal Railroad to Interstate Highway 45, in the amount of $300,000.

27. INSPECTION OF COMPLETED FLOOD CONTROL WORKS

Inspections of completed projects operated and maintained by local interests were made on the following projects. Fiscal year cost was $193,016.57.

Project	Date of Inspection
Vince Bayou, TX – Channel Rectification	November 2002
White Oak Bayou, TX - Flood Rectification	November 2002
Brays Bayou, TX . - Channel Rectification	March 2003
Clear Creek, Second Outlet Gated Structure	July 2003
Freeport & Vicinity, TX – Hurricane Flood Protection	July 2003
Texas City Hurricane Flood Protection, TX	August 2003

28. FLOOD CONTROL WORK UNDER SPECIAL AUTHORIZATION

Flood control activities pursuant to section 205 of 1970 Flood Control Act, Public Law 858, 80th Congress, as amended:

Initial coordination for Section 205 Flood Control activities was performed in FY 03 at a fiscal year cost of $9,052. Construction of the flood protection project for Buffalo Bayou, Texas (Lynchburg Pump Station) is discussed in Section 22.

Milestone report for flood protection was completed for Halletsville. Costs incurred for FY 03 were $1,383. Study for Halletsville was terminated as project was not feasible.

Milestone report for flood protection for Pearland was completed and feasibility was initiated at a cost of $15,631 for FY03.

Milestone report for reducing flooding of Old Town at the City of Brazoria was completed in FY03 and the feasibility study was initiated. Costs incurred were $9,199.

Emergency flood control – repair, flood fighting, and rescue work (Public Law 99, 84th Congress and antecedent legislation):

Disaster Preparedness cost for fiscal year 2003 was $299,366. Catastrophic disaster Preparedness Program fiscal year cost was $19,672. Anti-terrorism/Force protection cost for FY 2003 was $85,608.

Emergency Operations cost for fiscal year 2003 was $105,210 for the District's response to two events and for contract development in support of the national Emergency Ice Planning and Response Team. In July, Hurricane Claudette made landfall over the central Texas coast, the impacts resulted in a Presidential Disaster Declaration for 15 counties. Later in August, Tropical Storm Erika made landfall south of Brownsville with minimal impacts to Texas.

Rehabilitation of Flood Control Works Fiscal Year 2003 cost was $2,763 for management of eligibility inspections and field investigation for Project Information Report (PIR) preparation. The PIR

involves damages to the Texas City Hurricane Flood Protection project resulting from Hurricane Claudette.

Other Programs and Activities for FY 03 include the Regional Sediment Management Demonstration project, which is a study of sediment transport down the coastline of Texas. Costs incurred for FY 03 were $40,000.

29. EMERGENCY STREAM BANK AND SHORELINE EROSION WORK AND SNAGGING AND CLEARING ACTIVITIES UNDER SPECIAL AUTHORIZATION

Stream bank and shoreline erosion activities pursuant to Section 14 of the 1946 Flood Control Act, Public Law 525, as amended:

Initial coordination for Section 14 Emergency Stream Bank and Shoreline Erosion activities was performed in FY 03 for a cost of $10,341.

Three studies were initiated in FY 2003 as follows:

Four Oaks Ranch Road - a study was initiated and completed for erosion protection of streambank adjacent to the roadway at a cost of $46,004. Alternative solutions were presented to the sponsor, Orange County. The sponsor elected to relocate the road and the study was terminated.

Brazos River Bank Stabilization - A study was initiated to pursue erosion protection of flood protection levee. The Eligibility Determination Report was completed in May 02 and work is awaiting development of a Project Design Agreement. FY03 cost incurred was $32,852.

State Highway 82 Erosion Along the Sabine-Neches Waterway - A study was initiated for erosion protection of State Highway 82. The Eligibility Determination Report was completed in June 2003. The project is on hold awaiting funding. Cost incurred for FY03 was $4,863.

Snagging and clearing activities for flood control pursuant to Section 208 of the Flood Control Act of 1954, Public Law 780, as amended:

A new feasibility study for snagging and clearing activities for flood control improvements along Clear Creek were initiated in fiscal year 2003 at a cost of $13,371.

Environmental Restoration

30. PROJECT MODIFICATIONS FOR IMPROVEMENT OF ENVIRONMENT

Project modifications for improvement of environment activities pursuant to Section 1135 of the Water Resources Development Act of 1986, Public Law 99-662, as amended:

Coordination activities were performed in FY 03 for a fiscal year cost of $15,296.

A feasibility study was initiated on Taylor's Bayou for the replacement of a saltwater barrier to protect the bayou and marsh from saltwater intrusion. Funds in the amount of $161,161 were expended in FY03.

A preliminary Restoration Plan for Keith Lake Fish Pass in Jefferson County was completed in May 2002. A feasibility study was initiated in January 2003 and continued through FY03 at a cost of $114,938.

A Preliminary Restoration Plan was initiated for Port Aransas Nature Preserve (Piper Channel) for the protection and restoration of the ecosystem at the Port Aransas Nature Preserve. Cost incurred for FY03 was $8,759.

31. AQUATIC ECOSYSTEM RESTORATION

Coordination of Aquatic Ecosystem Restoration to improve the quality of the environment pursuant to section 206 of the Water Resources Development Act of 1996, Public Law 104-303, as amended:

Fiscal year costs for coordination were $15,327 and $74 for preliminary restoration plans.

In FY 03 Planning and Design Analysis, and environmental assessment were completed for the University of Texas Wetlands Education Center for the restoration of wetlands and dunes in support of the Education Center. Cost incurred for FY 03 was $256,833.

The feasibility study for the Gulf Intracoastal Waterway, Mad Island Marsh to protect the habitat at the Wildlife Management Area from further erosion was completed in May 2003. Funds in the amount of $319,302.

32. NORTH PADRE ISLAND, TX

Location. The project is located along the south central Texas coast on the northern portion of Padre Island, City of Corpus Christi, Nueces County, Texas. The project cuts through Mustang Island joining the Gulf of Mexico with the Gulf Intracoastal Waterway at mile 553.0

Existing project. The project was authorized by the Water Resources Development Act of 1999. The authorized plan of improvement provides for an opening between the Gulf of Mexico and Corpus Christi Bay, which consists of a jettied entrance and channel, extending from the Gulf of Mexico through Mustang

Island along the existing Packery Channel; storm damage reduction measures on the south side of the area; and ecosystem restoration measures at various locations adjacent to the project area. The estimated cost for new work is $19,500,000 Federal (Corps) and $10,500,000 non-Federal consisting of $10,000,000 cash contributions and $500,000 for lands, easements, rights-of-way, and relocations.

Local cooperation. Local Sponsor for the project is City of Corpus Christi, Texas. In accordance with the cost-sharing and financing concepts reflected in the Water Resources Development Act of 1986, local interests are required to provide lands, easements, and rights-of-way; modify or relocate buildings, pipelines, utilities, roads, and other facilities, except for railroad bridges; provide a cash contribution presently estimate at $10,000,000 and bear all costs of operation and maintenance.

Operations during fiscal year. New Work:. A construction contract was awarded July 30, 2003 and work began August 22, 2003. Cost incurred for FY 03 was $117,576. Also see Section 39, PRE-CONSTRUCTION ENGINEERING AND DESIGN.

33. BENEFICIAL USES OF DREDGED MATERIAL

Projects for beneficial uses of dredged material pursuant to Section 204 of the Water Resources Development Act of 1992, Public Law 102-560 are as follows:

Initial coordination activities for FY 03 were performed at a fiscal year cost of $13,982.

Planning and design analysis and environmental assessment for Sabine-Neches Waterway, Texas Point National Wildlife Refuge, TX are discussed in Section 34.

A preliminary restoration plan was completed on the Gulf Intracoastal Waterway, Rose City Marsh, TX for restoration of wetlands. Cost incurred for FY 03 was $2,200.

Feasibility studies continued for Sabine-Neches Waterway, Bessie Heights Marsh to raise the marsh elevation by using dredged material. See Section 35.

34. SABINE-NECHES WATERWAY – TEXAS POINT NATIONAL WILDLIFE REFUGE, TX

Location. The project is located on the Texas Gulf Coast at the intersection of the Gulf shoreline and the West Jetty of the Sabine-Neches Waterway. The project is within the Texas Point National Wildlife Refuge, managed by the U.S. Fish and Wildlife Service in Jefferson County, Texas.

Existing project. The project consist of pumping dredged material from the maintenance dredging of the Sabine Pass Channel onto the beach ridges adjacent to the West Jetty and within the Texas Point National Wildlife Refuge. Material placed in the marsh will fill subsided and eroded areas and enhance the restoration of the marsh. The material would also be available for transport into the marshes by storm-driven tidal surges. Once the material is there it would increase marsh elevations and provide nutrients for marsh plants. Any additional material will be placed in the surf zone shoreward of the ridge. This material will further stabilize the ridge and will provide increased storm protection for the marsh.

By helping to mitigate the effects of subsidence and erosion, the restored wetlands will continue to provide feeding, nesting, and nursery habitat for a variety of waterfowl, water birds, and mammals that utilize the marshes. The protected marsh will continue to contribute to the productivity for fish and shellfish by providing a feeding and nursery area.

The project was completed in January 2001. The total implementation cost was $1,045,772, consisting of $784,329 Federal (Corps) and $229,254 Non-Federal cash contribution and $32,189 Non-federal work-in-kind. The construction costs represent the incremental difference between the base navigation condition and the costs associated with constructing the marsh restoration project. There are no operation, maintenance, repair, rehabilitation, and replacement costs associated with the project.

Local cooperation. Fully complied with. The Texas General Land Office is the sponsor for the project. A Project Cooperation Agreement was executed August 11, 2000.

Operations during fiscal year. New Work: Initiated and completed the planning and design analysis and environmental assessment. The construction contract was awarded September 25, 2000 and completed in January 2001. The final cost of construction was $693,897 Federal (Corps) and $229,254 Non-Federal cash, which all costs was expended in FY 01.

35. SABINE-NECHES WATERWAY – BESSIE HEIGHTS, TX

Location. The project site is located within the Bessie Heights Marsh area, approximately 2 miles east of the Neches River in Orange County, Texas. The project is within the Nelda Stark Unit, owned by the Texas Parks and Wildlife Department.

Existing Project. The project consists of the beneficial use of dredged material by pumping approximately 651,000 cubic yards of maintenance-dredged material into an approximate 71-acre tract

within the Nelda Stark Unit of the Bessie Heights Marsh area, the remainder of the maintenance material placed in existing SNWW placement areas (PA 18, 23, and 25B.)

Bessie Heights marsh, once an immense, freshwater marsh ecosystem providing crucial protection and forage for waterfowl, invertebrates and juvenile fish, is now primarily saline and experiencing a dramatic decline in all characteristics of plants and animals. It is considered a critically reduced habitat by the Texas Commission on Environmental Quality formerly the Texas Natural Resource Conservation Commission .

The plan of improvement consists of placing maintenance dredged material from the Sabine-Neches Waterway into the existing open water areas of the Bessie Heights Marsh in an effort to restore the historical wetland habitat. By utilizing the maintenance material to mitigate the effects of subsidence and erosion, the restored wetlands will continue to provide feeding, nesting, and nursery habitat for a variety of waterfowl and mammals that use these marshes.

Local cooperation. Fully complied with. The Sponsor is the Jefferson County Waterway and Navigation District. A Project Cooperation Agreement was executed in January 2003.

Operations during fiscal year. New Work: Placement of the dredged material was completed in FY03. Planted the perimeter to prevent erosion and await consolidation. Complete consolidation is expected in August 2004 at which time the planting will be completed. FY 2003 cost is $500,000 Federal (Corps) and $191,750 non-Federal.

General Investigations

36. SURVEYS

Fiscal year costs for reconnaissance and feasibility studies were $1,477,935 for navigation and $387,098 for flood damage prevention. Reconnaissance and feasibility studies on watershed and ecosystems projects incurred costs of $699,932. No cost was incurred for a reconnaissance study for shoreline protection in FY 03. Reconnaissance and feasibility studies on review of authorized projects incurred costs of $693,513 for FY 2003. Miscellaneous Activities for FY 03 include the following: Special Investigations at a cost of $14,000; Interagency Water Resources Development at $11,008; National Estuary Program at $5,421; and North American Waterfowl Management Plan at a cost of $2,099.

37. COORDINATION WITH OTHER AGENCIES

Cost for Coordination With Other Agencies was $44,063 for FY 2003.

38. COLLECTION AND STUDY OF BASIC DATA

Floodplain management, national flood proofing conference, and technical services were performed at a cost of $38,003; $26,678; and $37,998 respectively. No cost was incurred in FY03 for quick responses to collection and study of basic data.

A study for Texas Hurricane Evacuation was completed in FY 03 and incurred a cost of $1,283.

Hydrologic studies cost $12,242.

39. PRE-CONSTRUCTION ENGINEERING AND DESIGN

Greens Bayou, Texas – The project was authorized for construction in the Water Resources Development Act of 1990 (PL 101-640). The authorized project provides for 25 miles of stream enlargement, 14 miles of stream clearing and 4 flood detention basins. Aesthetic vegetation and mitigation is included. Recreation facilities include trails, picnic facilities, sports fields, launches, ramps, comfort stations and parking areas. The project is currently being reformulated and a new project has been identified in a General Reevaluation Study. The new project will consist of approximately 3.2 miles of stream enlargement in the upper reaches of the bayou between Veterans Memorial Drive and Cutten Road. A flood detention basin will be located near the downstream terminus of the stream enlargement. Aesthetic vegetation is included. Recreation facilities are not currently included in the project as a local sponsor has not been confirmed. Estimated planning and engineering cost is $8,159,000. Planning and engineering studies were initiated in FY 1990. Fiscal year costs were $631,069.

South Main Channel, Texas – The authorized project consists of channel improvements, which will provide flood protection to the cities of McAllen, Edinburg, Edcouch, La Villa and Lyford, as well as the rural areas of Hidalgo and Willacy Counties north of U.S. Highway 83. The authorized plan is currently being revised to reflect a smaller project and will include construction of new channels only in Willacy County, and a local protection project for Lyford, Texas. Estimated planning and engineering cost estimate is $8,780,000. Planning and Engineering studies were initiated in FY 1990. Fiscal year costs were $93,628.

Raymondville Drain, Texas - The project consists of 43.8 miles of channel work, including enlargement of existing channels, and construction of new channels, a 3.88-mile long levee, and diversion ditches along the west side of Raymondville, Texas. Estimated planning and engineering estimate is $2,632,000. Planning and engineering studies were initiated in FY 1997. Fiscal year costs were $273,123.

Hunting Bayou, Texas - The project was authorized for construction in the Water Resources Development Act of 1990 (PL 101-640). The authorized project provides for 14.3 miles of stream improvements, recreation trails, picnic facilities, a comfort station, access and parking areas. The Local Sponsor was authorized to design and construct an alternative to the project and be reimbursed for the Federal share by the Water Resources Development Act of 1996 (PL 104-303). The project is currently being reformulated and will be identified by the General Reevaluation Study. Estimated planning and engineering estimate is $2,070,000. Planning and engineering studies were initiated in FY 1998. Fiscal year costs were $138,901.

North Padre Island, Texas - The project was authorized for ecosystem restoration and storm damage reduction at North Padre Island, Corpus Christi Bay, by the Water Resources Development Act of 1999 (PL 106-53). The project will consist of a jettied channel from the Gulf of Mexico through Padre Island connecting with the Gulf Intracoastal Waterway at approximately mile 553; storm damage reduction measures on the south side of the area; and ecosystem restoration measures at various locations adjacent to the project area. Estimated planning and engineering estimate is $1,754,000. Planning and engineering studies were initiated in FY 2000 and completed in FY 2003. Fiscal year costs were $7,078.

Colonias Along U.S. and Mexico Border, Texas - The project was authorized in accordance with the Water Resources Development Act of 1992, Section 219 (PL 102-580). Assistance is to be provided to non-Federal interests for carrying out water related environmental infrastructure and resource protection and development projects for selected areas along the Texas/Mexico borders. Estimated planning and engineering cost estimate is $2,550,000. Planning and engineering studies were initiated in FY 2001. Fiscal year costs were $27,808.

GIWW, Matagorda Bay, Texas - The project consist of realigning the navigation channel from mile 460 to mile 472 with a channel approximately 6,000 feet north of and paralleling the existing route. Channel dimensions are 12 feet deep by 125 feet wide for most of the channel, with a widening to 300 feet where it crosses the Matagorda Ship Channel, and flares at each of the places where the channel changes direction. Material dredged from the channel will be used to create marshes in Matagorda Bay and to combat erosion along Matagorda Peninsula. The existing channel from mile 460 to 473 would be abandoned. . Estimated planning and engineering cost estimate is $1,070,000. Planning and engineering studies were initiated in FY 2002. Fiscal year costs were $549,834.

Texas City Channel, Texas - The project was authorized in accordance with the Water Resources Development Act of 1986. Planning, engineering and design has been on hold since 1990 at the request of the Local Sponsor, the City of Texas City. Planning, engineering and design was resumed in FY 02. A reconnaissance level study was performed and it was determined that the authorized project is in the Federal interest and meets current needs. Estimated planning and engineering cost estimate is $11,375,000. Planning and engineering studies were initiated in FY 2002. Fiscal year costs were $320,642.

Corpus Christi Ship Channel, Texas - The Corpus Christi Ship Channel (45-foot) project, 40 miles long, is a Federally constructed deep-draft navigation project serving the ports at Harbor Island, Ingleside, and Corpus Christi in Nueces County. The recommended plan of improvement will deepen the channel to 52 feet, widen to 530 feet, add barge lanes on both sides o the channel across Corpus Christi Bay, and extend the La Quinta channel one and one-half miles at a dept of 39 feet. Estimated planning and engineering cost estimate is $1,836,000. Planning and engineering studies were initiated in FY 2003. Fiscal year costs were $6,306.

TABLE 40-A COST AND FINANCIAL STATEMENT

See Section in Text	Project	Funding	FY 00	FY 01	FY 02	FY 03	Total Cost To Sep. 30, 2003[29]
1.	**Aquatic Plant Control (Southwestern Division) 1965 Act**	**New Work:**					
		Approp.	–	–	273,000	326,000	5,132,600[1]
		Cost	9,810	183	8,212	496,056	5,023,638[1]
2.	**Brazos Island Harbor, TX**	**New Work:**					
		Approp	–	–	–	–	27,871,202[2]
		Cost	–	–	–	–	27,871,202[2]
		Maint:					
		Approp	392,940	4,532,760	2,526,700	3,462,924	71,462,859[3]
		Cost	391,064	4,531,684	2,529,867	3,461,570	71,461,008[3]
		Major Rehab:					
		Approp.	–	–	–	–	2,170,080
		Cost	–	–	–	–	2,170,080
3.	**Cedar Bayou, TX**	**New Work:**					
		Approp.	–	–	–	–	681,263[4]
		Cost	–	–	–	–	681,263[4]
		Maint:					
		Approp.	159,600	30,751	806,566	(1,545)	5,060,348[5]
		Cost	159,604	30,824	806,568	(1,544)	5,060,348[5]
4.	**Channel to Port Bolivar, TX**	**New Work:**					
		Approp.	–	–	–	–	133,925[6]
		Cost	–	–	–	–	133,925[6]
		Maint:					
		Approp.	138,448	167,770	285,660	106,792	1,941,931[7]
		Cost	138,498	167,792	285,667	106,793	1,941,931[7]
5.	**Clear Creek and Clear Lake, TX**	**New Work:**					
		Approp.	–	–	–	–	66,934
		Cost	–	–	–	–	66,934
		Maint:					
		Approp.	(40)	–	–	–	549,599
		Cost	–	–	–	–	549,599
6.	**Corpus Christi Ship Channel, TX (Regular Funds)**	**New Work:**					
		Approp.	–	–	–	–	77,474,639[8]
		Cost	–	–	–	–	77,472,463[8]
		Maint:					
		Approp.	696,300	6,931,513	3,547,120	4,854,048	140,993,671[9]
		Cost	694,812	6,928,655	3,553,262	4,834,666	140,974,143[9]
		Major Rehab:					
		Approp.	–	–	–	–	3,576,684
		Cost	–	–	–	–	3,576,684
	(Contributed Funds)	**New Work:**					
		Contrib.	–	–	–	–	6,279,088
		Cost	_	–	–	–	6,143,152

TABLE 40-A COST AND FINANCIAL STATEMENT

See Section in Text	Project	Funding	FY 00	FY 01	FY 02	FY03	Total Cost To Sep. 30, 2003[29]
7.	**Double Bayou, TX**	**New Work:**					
	(Regular Funds)	Approp.	–	–	–	–	226,558
		Cost	–	–	–	–	226,558
		Maint:					
		Approp.	–	936,469	301,944	(241)	3,099,074
		Cost	–	935,495	302,917	(240)	3,099,074
	(Contributed Funds)	**Maint:**					
		Contrib.	(23,569)	–	–	–	233,325
		Cost	–	–	–	–	233,325
8.	**Freeport Harbor, TX**	**New Work:**					
		Approp.	20,000	450,000	–	140,000	65,371,956[10]
		Cost	30,077	65,758	148,631	362,402	65,342,763[10]
		Maint:					
		Approp.	4,947,000	2,595,569	4,391,801	2,179,557	93,890,966[11]
		Cost	4,946,198	2,595,332	4,393,656	2,177,984	93,889,352[11]
	Minor Rehab:						
		Approp.	–	–	–	–	8,935
		Cost	–	–	–	–	8,935
9.	**Galveston Harbor and Channel, TX**	**New Work:**					
		Approp.	–	–	–	–	29,096,392[12]
		Cost	–	–	–	–	29,096,392[12]
		Maint:					
		Approp.	6,697,753	419,233	215,343	4,502,050	123,885,673[13]
		Cost	6,698,589	413,099	223,965	4,502,094	123,885,673[13]
		Major Rehab:					
		Approp.	–	–	–	–	7,969,329
		Cost	–	–	–	–	7,969,329
10.	**Gulf Intracoastal Waterway between Apalachee Bay, FL and the Mexican Border (Galveston District)**	**New Work:**					
		Approp.	9,506,490	6,951,000	4,761,329	688,000	155,954,046[14]
		Cost	9,609,040	7,025,080	3,911,229	1,477,966	150,667,512[14]
	(Regular Funds)						
	(Inland Waterways Trust Fund)	**New Work:**					
		Approp	(130,510)	–	–	–	28,634,490
		Cost	384	–	–	–	28,634,490
	(Regular Funds)	**Maint:**					
		Appr	28,670,518	39,485,406	37,884,343	31,437,912	598,488,988[15]
		Cost	28,634,639	39,457,492	37,888,158	31,224,591	598,151,713[16]
		Major Rehab:					
		Approp.	–	–	–	–	3,390,338
		Cost	–	–	–	–	3,390,338
	(Inland Waterways	**Major Rehab:**					
	Trust Fund)	Approp.	–	–	–	–	2,955,700
		Cost	–	–	–	–	2,955,700
	(Regular Funds)	**Minor Rehab:**					
		Approp.	–	–	–	–	835,873
		Cost	–	–	–	–	835,873

TABLE 40-A COST AND FINANCIAL STATEMENT

See Section in Text	Project	Funding	FY 00	FY 01	FY 02	FY03	Total Cost To Sep. 30, 2003[29]
11.	Houston-Galveston Navigation Channels, TX (Regular Funds)	New Work:					
		Approp.	38,003,700	21,728,000	28,385,000	47,554,000	218,915,300
		Cost	67,341,990	21,446,315	27,360,567	48,528,490	218,390,016
	(Contributed Funds)	New Work:					
		Approp.	19,100,000	10,030,000	12,640,000	9,500,000	72,250,000
		Cost	26,939,013	6,592,594	8,387,114	16,949,168	69,515,206
12.	Houston Ship Channel, TX (Regular Funds)	New Work:					
		Approp.	–	–	–	–	35,760,382[17]
		Cost	–	–	–	–	35,760,382[17]
		Maint:					
		Approp.	8,543,922	9,683,318	4,217,772	11,726,132	224,591,655[18]
		Cost	8,535,868	9,677,466	4,215,396	11,661,868	224,508,498[18]
13.	Matagorda, Ship Channel, TX (Regular Funds)	New Work:					
		Approp.	–	–	–	–	18,058,777[19]
		Cost	–	–	–	–	18,058,777[19]
		Maint:					
		Approp.	1,409,404	5,687,048	1,379,518	3,225,683	77,005,278[20]
		Cost	1,395,380	5,700,179	1,380,419	3,225,636	77,002,962[20]
14.	Neches River Saltwater Barrier, TX (Regular Funds)	New Work:					
		Approp.	1,715,000	11,542,000	13,077,000	6,568,500	39,009,343
		Cost	1,452,433	11,659,773	13,096,099	6,615,670	38,930,516
	(Contributed Funds)	New Work:					
		Approp.	800,000	4,000,000	5,000,000	1,860,000	11,660,000
		Cost	195,260	2,503,543	6,307,962	2,623,005	11,629,770
15.	Sabine-Neches Waterway, TX (Regular Funds)	New Work:					
		Approp.	–	–	–	–	56,136,815[21]
		Cost	–	–	–	–	56,136,815[21]
		Maint:					
		Approp.	11,238,821	6,368,939	13,160,729	13,730,360	279,519,719[22]
		Cost	11,232,884	6,361,207	13,177,850	13,716,688	279,504,985[22]
16.	Texas City Channel, TX	New Work:					
		Approp.	–	–	157,000	375,500	15,689,472[23]
		Cost	–	–	148,712	320,642	15,626,326[23]
		Maint:					
		Approp.	42,050	2,812,602	44,118	201,838	35,920,224[24]
		Cost	42,040	2,810,107	46,622	201,836	35,920,221[24]
		Major Rehab:					
		Approp.	–	–	–	–	726,158
		Cost	–	–	–	–	726,158
17.	Trinity River and Tributaries, TX (Includes Wallisville)	New Work:					
		Approp.	3,989,000	1,350,000	999,000	1,519,500	84,481,176[25]
		Cost	4,789,998	1,457,012	908,519	2,040,754	84,449,098[25]
		Maint:					
		Approp.	2,473,000	1,465,083	1,416,575	5,732,231	34,119,775[26]
		Cost	2,470,717	1,432,620	1,435,784	5,732,564	34,101,537[26]

TABLE 40-A COST AND FINANCIAL STATEMENT

See Section in Text	Project	Funding	FY 00	FY 01	FY 02	FY03	Total Cost To Sep. 30, 2003[29]
	21. Buffalo Bayou and Tributaries, TX	**New Work:**					
		Approp.	5,520,000	(618,000)	489,000	4,553,500	84,011,771[27]
		Cost	5,813,860	4,947,070	913,129	4,764,191	83,416,112[27]
		Recreation:					
		Approp.	–	–	–	–	377,804
		Cost	–	–	–	(167,674)	210,123
		Maint:					
		Approp.	1,985,927	3,147,637	2,804,158	3,495,653	54,704,671
		Cost	1,930,374	3,203,112	2,789,998	3,504,571	54,677,998
		Major Rehab:					
		Approp.	–	–	–	–	12,475,000
		Cost	–	–	–	–	12,475,000
		Dam Safety:					
		Approp.	–	–	–	–	12,693,700
		Cost	–	–	–	–	12,693,700
	22. Buffalo Bayou at Lynchburg,TX	**New Work:**					
	(Regular Funds)	Approp.	–	60,000	110,000	2,809,907	3,738,507
		Cost	222	0	69,888	2,600,312	3,426,902
	(Contributed Funds)	**New Work:**					
		Approp.	–	–	43,000	2,775,000	3,091,346
		Cost	–	–	0	2,335,149	2,588,435
	23. Clear Creek, TX	**New Work:**					
	(Regular Funds)	Approp.	788,300	1,178,000	1,296,941	1,549,000	26,999,977
		Cost	118,772	1,553,992	1,472,145	1,319,933	26,635,284
	(Contributed Funds)	**New Work:**					
		Approp.	–	–	–	466,000	1,781,000
		Cost	–	–	49,196	336,368	1,619,946
	24. Cypress Creek, TX	**New Work:**					
	(Regular Funds)	Approp.	3,832,000	300,000	(484,270)	301,000	6,243,830
		Cost	39,350	3,929,795	(321,405)	301,014	6,243,830
	(Contributed Funds)	**New Work:**					
		Approp.	–	–	–	–	835,000
		Cost	65	–	–	–	835,000
	25. Lower Rio Grande Basin, TX	**New Work:**					
		Approp.	1,192,000	786,000	783,000	348,000	10,123,463
		Cost	1,166,325	769,058	797,489	366,752	10,113,589
	26. Sims Bayou, TX	**New Work:**					
	(Regular Funds)	Approp.	11,410,000	16,106,000	24,027,000	9,868,000	132,203,417
		Cost	12,294,414	15,738,706	24,275,952	10,158,806	131,839,751
	(Contributed Funds)	**New Work:**					
		Approp.	550,000	400,000	1,200,000	2,800,000	9,691,360[28]
		Cost	510,799	682,068	1,107,418	1,888,078	8,550,500[28]
	32. North Padre Island, TX	**New Work:**					
	(Regular Funds)	Approp.	320,000	1,399,000	997,000	2,811,000	5,527,000
		Cost	306,580	1,196,390	758,593	1,076,067	3,337,630
	(Contributed Funds)	**New Work:**					
		Approp.	–	–	–	2,458,584	2,458,584
		Cost	–	–	–	41,152	41,152

TABLE 40-A COST AND FINANCIAL STATEMENT

See Section in Text	Project	Funding	FY 00	FY 01	FY 02	FY03	Total Cost To Sep. 30, 2003[29]
34.	**SNWW- Texas Point Wildlife Refuge**	**New Work:**					
	(Regular Funds)	Approp.	875,000	(52,517)	(38,153)	_	784,330
		Cost.	121,970	662,260	100	–	784,330
	(Contributed Funds)	**New Work:**					
		Approp.	230,159	31,284	0	–	261,443
		Cost.	–	229,254	0	–	229,254
35.	**SNWW- Bessie Heights Marsh**	**New Work:**					
	(Regular Funds)	Approp.	_	15,000	98,154	692,567	805,721
		Cost.	–	7,195	83,799	653,301	744,295
	(Contributed Funds)	**New Work:**					
		Approp.	_	_	_	300,000	300,000
		Cost.	–	–	–	191,750	191,750

[1] Excludes $1,637,270 credit for contributed work.

[2] Includes $675,855 for previous projects. In addition, $10,571,509 expended from contributed funds, of which $123,361 was for previous projects. Excludes $874,258 expended from contributed funds for dock removal for the local sponsor.

[3] In addition, $1,681,103 expended from contributed funds and $34,000 expended from contributed funds for Port Isabel. In addition $1,208,789 expended from contributed funds from the City of South Padre Island for beneficial placement of dredged material on the South Padre Island Beach. Also, in addition $976,225 expended from contributed funds from Texas General Land Office.

[4] Includes $39,087 for previous projects. In addition $25,000 expended from contributed funds.

[5] Includes $69,784 for previous projects.

[6] Includes $48,711 for previous projects.

[7] Includes $46,101 for previous projects.

[8] Includes $1,372,534 for previous projects. Includes $456,515 for Sec. 107 project for Port Aransas Breakwaters. In addition $768 expended from contributed funds for Port Aransas Breakwaters.

[9] Includes $62,452 for previous projects. In addition, $1,549,550 expended from contributed funds.

[10] Includes $147,098 for previous projects. In addition, $21,007,011 expended from contributed funds. ($581,615 on 45-foot project.)

[11] In addition, $229,311 expended from contributed funds.

[12] Includes $8,421,996 for previous projects. In addition, $4,048,734 expended from contributed funds.

[13] Includes $86,126 for previous projects. In addition, $2,982,425 expended from contributed funds.

[14] Includes $706,709 for previous projects. Includes Sec. 107 projects for Port Isabel Small Boat Basin ($46,559); Port Isabel Side Channel ($8,414); Offatts Bayou ($356,466); and Channel to Aransas Pass ($658,573). In addition contributed funds expended for Port Isabel Small Boat Basin ($46,559); Offatts Bayou ($49,665); Channel to Aransas Pass ($347,950); Chocolate Bayou ($658,310); Mouth of Colorado River ($3,397,080); ($2,673,913) Channel to Victoria; ($862,716) expended for the local sponsor's levee requirement on Channel to Victoria; and $1,456,964 expended for expanding the turning basin

[15] Includes $1,526,564 for previous projects. In addition $22,672 contributed funds for main channel, $609,100 contributed funds for Rollover Pass (beginning 1997), and $175,300 contributed funds for marsh restoration in an area between Bastrop Bayou and Galveston. Includes following amounts for tributary channels separately funded starting in fiscal year 1987: Channel to Victoria $22,672,489. Channel to Aransas Pass $2,600. Chocolate Bayou Channel $4,812,062. In addition $1,515,574 was contributed for Chocolate Bayou Channel. Includes following amounts for tributary channels separately funded starting in fiscal year 1989: Channel to Harlingen $8,680,708. Channel to Port Mansfield $10,686,650. Also

includes $21,801,361 for Mouth of Colorado River, separately funded beginning in fiscal year 1992 and $28,140 contributed funds for Channel to Harlingen beginning in fiscal year 1998.

[16] Includes $1,526,564 for previous projects. In addition $22,672 expended from contributed funds for main channel, $556,699 contributed funds for Rollover Pass (beginning 1997) for the beneficial placement of dredge material at Rollover Pass., and $159,855 contributed funds for marsh restoration in an area between Bastrop Bayou and Galveston. Includes following amounts for tributary channels separately funded starting in fiscal year 1987: Channel to Victoria $22,659,011, Channel to Aransas Pass $2,600, Chocolate Bayou Channel $4,811,269. In addition $1,515,574 was expended from contributed funds for Chocolate Bayou Channel. Also includes amounts for tributary channels separately funded starting in fiscal year 1989: Channel to Harlingen $8,860,708. Channel to Port Mansfield $10,686,335. Also includes an expended amount of $21,657,945 for Mouth of Colorado River, separately funded in fiscal year 1992. In addition, includes $28,140 contributed funds expended beginning in fiscal year 1998 for Channel to Harlingen.

[17] Includes $4,105,157 for previous projects. In addition, $2,591,939 expended from contributed funds, of which $1,209,179 was for previous projects.

[18] Includes $1,213,142 for previous projects. In addition, $534,641 expended from contributed funds for Houston Ship Channel, of which $200,000 was for previous projects and $125,000 expended from contributed funds for Greens Bayou Channel. Includes appropriated funds for tributary channels separately funded starting in fiscal year 1992: Greens Bayou Channel $1,837,066. Barbour Terminal Channel $3,319,053. Bayport Ship Channel $17,961,466. Also, includes $91,942 contributed funds for Bayport Ship Channel beginning in FY 1998. Expenditures for tributary channels separately funded starting in fiscal year 1992: Greens Bayou Channel $1,806,090. Barbour Terminal Channel $3,316,137. Bayport Ship Channel $17,961,210. In addition $91,942 expended from contributed funds for Bayport Ship Channel beginning in FY 1998.

[19] In addition, $12,409,619 expended from contributed funds and $182,800 for contributed lands.

[20] Starting in fiscal year 1990 includes an appropriation of $2,303,797 and expenditures of $2,303,797 for Channel to Red Bluff.

[21] Includes $5,180,832 for previous projects. In addition, $2,680,942 expended from contributed funds, of which $577,507 was for previous projects.

[22] Includes $2,379,677 for previous projects. In addition, $6,746,165 expended from contributed funds and $7,944 expended from contributed funds for real estate acquisition for the local sponsor. In addition $346,579 contributed funds from the Port of Port Arthur of which$158,730 have been expended.

[23] Includes $366,823 for previous projects. In addition, $1,023,819 expended from contributed funds, of which $99,000 was for mitigation measures.

[24] Includes $195,083 for previous projects.

[25] Includes $1,966,306 for previous projects. In addition, $66,000 expended from contributed funds.

[26] Includes $543,662 for previous projects. Includes $9,747,974 appropriated (and $9,730,362 expended) for Wallisville Lake project beginning in FY 1983.

[27] Includes $4,400,000 of advanced funds repaid to Harris County Flood Control District. In addition, $63,661 contributed funds expended for Brays Bayou and $12,900 Federal funds and $19,104 contributed funds expended for enlargement of Clodine Ditch.

[28] Excludes $2,001,622 expended from contributed funds for real estate acquisition for the local sponsor.

[29] Includes funds ($12,544,400) provided by the Jobs Act (P.L. 98-8, dated March 24, 1983) for projects listed in Table 15-I of Annual Report for 1985.

TABLE 40-B AUTHORIZING LEGISLATION

See Section in Text	Date Authorizing Act	Project and Work Authorized	Documents
1.		**AQUATIC PLANT CONTROL, TX**	
	Oct. 27, 1965	Provides for control of progressive eradication of aquatic plant growth from the navigable waters and streams in the U.S.	H. Doc. 251, 89th Cong., 1st Sess.
	Nov. 17, 1986	Amended cost sharing requirements to provide for 50 percent Federal and 50 percent non-Federal participation in control operations.	Sec. 103(c), PL 99-662
2.		**BRAZOS ISLAND HARBOR, TX**	
	Jun. 3, 1930	Jetties and jetty channel, inside channels and basins.	Rivers and Harbors Committee Doc. 16, 71st Cong., 2nd Sess.
	May 24, 1934 (PWA) Aug. 30, 1935	Local cooperation requirement modified to provide contribution of funds to cover cost of original dredging of all inside channels and basins.	Rivers and Harbors Committee Doc. 10, 71st Cong., 1st Sess.
	Aug. 26, 1937	Deepen jetty channel to 31 feet and inner channels and Brownsville and Port Isabel turning basins to 28 feet.	Rivers and Harbors Committee Doc. 32, 75th Cong., 1st Sess.
	Mar. 2, 1945	Enlarge Port Isabel turning basin.	H. Doc. 335, 76th Cong., 1st Sess.
	Mar. 2, 1945	Deepen entrance channel to 35 feet; deepen to 33 feet channel across Laguna Madre; deepen to 32 feet channels from Laguna Madre to turning basins at Brownsville and Port Isabel; widen turning basins; and dredging present shallow-draft channel south of Port Isabel from railroad bridge to Laguna Madre and connecting channel to Port Isabel turning basin.	H. Doc. 347, 77th Cong., 1st Sess.
	Jul. 24, 1946	Additional connecting channel between Port Isabel and Brownsville channels; and transfer shallow-draft channels at Port Isabel to GIWW.	H. Doc. 627, 79th Cong., 2nd Sess.
	May 17, 1950	Deepen to 38 feet in outer bar channels and 36 feet in all other authorized channels and basins; extend existing turning basins at Brownsville and Port Isabel; and construct small-boat basin with a connecting channel next to Brownsville ship channel.	H. Doc. 192, 81st Cong., 1st Sess.
	Jul. 14, 1960	Widen Brownsville Channel to 300 feet at a depth of 36 feet from former Goose Island passing basin to turning basin extension, thence at a width of 500 feet and same depth to turning basin proper, deepen to 36 feet in area in southeast corner of turning basin, maintain two existing basins of fishing harbor, and a connecting channel, and construct a third basin, with necessary connecting channel and extend Brazos Island Harbor north jetty seaward 1,000 feet.[27]	H. Doc. 428, 86th Cong., 2nd Sess.[1]

TABLE 40-B AUTHORIZING LEGISLATION

See Section in Text	Date Authorizing Act	Project and Work Authorized	Documents
		BRAZOS ISLAND HARBOR, TX (Continued)	
	Nov. 17, 1986	Enlargement of the entrance channel from deep water in the Gulf of Mexico to the Laguna Madre to a depth of 44 feet and a width of 400 feet; enlargement of the Turning Basin Extension to a point 800 feet beyond the grain elevator to a depth of 42 feet at widths varying from 325 to 400 feet; removal of Brownsville Navigation District Wharves 5, 6, and 9 to permit widening of the adjacent portion of the Turning Basin to 1,200 feet at a depth of 36 feet; construction of asphalt walkways with handrails on the crown of the North and South Jetties, and construction of park-type public use facilities at the inner end of the North Jetty.	Sec. 201, PL 99-662
3.		**CEDAR BAYOU, TX**	
	Jul. 3, 1930	Channel 10 feet deep and 100 feet wide from Houston Ship Channel to a point on bayou 11 miles above mouth.[29]	S. Doc 107, 71st Cong., 2nd Sess.[1]
	Dec. 11, 2000	Channel 12 feet deep and 125 feet wide from Houston Ship channel to a point on bayou 11 miles above mouth.	S. 349 (a)(2), PL 106-541
4.		**CHANNEL TO PORT BOLIVAR, TX**	
	Jun. 25, 1910	A channel 30 feet deep and 200 feet wide from deep water in Galveston Harbor extending to a turning basin 1,000 feet square and 30 feet deep.[30]	H. Doc. 328, 61st Cong., 2nd Sess.
	Mar. 4, 1919	Enlargement, extension and protection of turning basin.[30]	H. Doc. 1122, 65th Cong., 2nd Sess.[1]
5.		**CLEAR CREEK AND CLEAR LAKE, TX**	
	Jun. 13, 1902	A channel 4 feet deep and 50 feet wide.	H. Doc. 449, 56th Cong., 1st Sess.
	Aug. 30, 1935	Enlargement of channel to 6 feet deep and 60 feet wide.	H. Doc. 264, 73rd Cong., 2nd Sess.
	Mar. 2, 1945	Realignment, enlargement, and extension of channel to highway bridge near League City.	H. Doc. 319, 77th Cong., 1st Sess.[1]
6.		**CORPUS CHRISTI SHIP CHANNEL, TX**	
	Mar. 3, 1899	Acquisition of old curved portion of north jetty previously constructed by private parties.	Specified in Act.
	Jun. 13, 1902	Complete north jetty in accordance with builder's plans.	Specified in Act.
	Mar. 3, 1905	Complete north jetty in accordance with builder's plans.	Specified in Act.
	Mar. 2, 1907	Connect old curve to St. Joseph Island, and construct south jetty.	Rivers and Harbors Committee Doc. 5 59th Cong., 2nd Sess.

TABLE 40-B AUTHORIZING LEGISLATION

See Section in Text	Date Authorizing Act	Project and Work Authorized	Documents
		CORPUS CHRISTI SHIP CHANNEL, TX (Continued)	
	Feb. 27, 1911	Dredge roadstead in Harbor Island Basin to 20 feet deep and construct 10,000 linear feet of stone dike on St. Joseph Island.	H. Doc. 1094, 61st Cong., 3rd Sess.
	Mar. 4, 1913[2]	Channel between jetties and Harbor Island Basin to 25 feet deep, extend jetties seaward, extend dike on St. Joseph Island 9,100 feet, and dredge approach channel 12 feet deep to town of Port Aransas.	H. Doc. 1125, 62nd Cong., 3rd Sess.
	Sep. 23, 1922	Dredging channel from Aransas Pass to Corpus Christi, 25 feet deep, 200 feet bottom width.	H. Doc. 321, 67th Cong., 2nd Sess.
	Jul. 3, 1930[3]	Deepen entrance channel from gulf to Harbor Island and provide an inner basin at Harbor Island of reduced area but greater depth.	H. Doc. 214, 70th Cong., 1st Sess.
	Jul. 3, 1930	Channel from Aransas Pass to Corpus Christi Channel with depth 30 feet.	Rivers and Harbors Committee Doc. 9, 71st Cong., 1st Sess.
	Aug. 30, 1935[4]	Enlarge all channels from gulf to western end of basin dredge by Humble Oil and Refining Co., at its docks on Harbor Island.	Committee Docs. 35, 72nd Cong., 1st Sess., and 40, 73rd Cong., 2nd Sess.
	Aug. 30, 1935	Maintain channel and maneuvering basin between breakwater and western shoreline of Corpus Christi Bay.	H. Doc. 130, 72nd Cong., 1st Sess.
	Aug. 30, 1935	Maintain 30-foot depth of approach channel, turning basin at Corpus Christi, Industrial Canal and turning basin at Avery Point.	Rivers and Harbors Committee Doc. 13, 74th Cong., 1st Sess.
	Aug 30, 1935	Maintain and deepen to 32 feet channel from deep water at Port Aransas to and including turning basin at Corpus Christi.	Rivers and Harbors Committee Doc. 63, 74th Cong., 1st Sess.
	Jun. 20, 1938	Extend main turning basin at Corpus Christi westward 2,500 feet at its present width and depth, deepen existing Industrial Canal and turning basin to 32 feet and extend this canal at a depth of 32 feet and general width of 150 feet, westward along Nueces Bay shore to a turning basin 32 feet by 900 feet, and 1,000 feet long near Tule Lake.	H. Doc. 574, 75th Cong., 3rd Sess.
	Mar. 2, 1945	Provide depth of 34 feet in all project channels and basins from Port Aransas to and including Tule Lake turning basin, for a width of 250 feet from Port Aransas to breakwater at Corpus Christi, for a width of 200 feet in Industrial Canal and in channel between Avery Point and Tule Lake turning basins, and widen Avery Point turning basin to 1,000 feet.	H. Doc. 544, 78th Cong., 2nd Sess.
	Jun 30, 1948	Deepen entrance channel to 38 feet from gulf to outer end of jetty; 38 feet decreasing to 36 feet thence to station 90 north jetty; and 36 feet in all other deep water channels and basins except 2,000-foot undredged part of inner basin at Harbor Island, and a width of 400 feet in channel from Port Aransas to Maneuvering basin at Corpus Christi.	H. Doc. 560, 80th Cong., 2nd Sess.

TABLE 40-B AUTHORIZING LEGISLATION

See Section in Text	Date Authorizing Act	Project and Work Authorized	Documents
		CORPUS CHRISTI SHIP CHANNEL, TX (Continued)	
	Sep. 3, 1954	An anchorage basin 12 feet deep, from 300 to 400 feet wide, and 900 feet long in Turtle Cove at Port Aransas, Texas.	H. Doc. 654, 81st Cong., 1st Sess.
	Sep. 3, 1954[5]	Branch channel 32 feet by 150 feet, extending northerly from main channel in vicinity of Port Ingleside, along north shore of Corpus Christi Bay to Reynolds Metals Co. plant and turning basin 32 feet deep and 800 feet square near plant in general vicinity of LaQuinta, Texas.	H. Doc. 89, 83rd Cong., 1st Sess.
	Sep. 3, 1954	An entrance channel 36 by 400 feet on a tangent alignment from 400-foot channel in Corpus Christi Bay, near Corpus Christi breakwater to flared approach channel to Corpus Christi turning basin.	H. Doc. 487, 83rd Cong., 2nd Sess.
	Jul. 3, 1958	Deepen and widen LaQuinta Channel to 36 by 200 feet; enlarge LaQuinta turning basin to 36 by 800 by 1,000 feet; a flared entrance to channel; and widening at curves.	S. Doc. 33, 85th Cong., 1st Sess.
	Jul. 3, 1958	Deepen entrance channel to 42 feet from gulf to outer end of jetty; 40 feet in all other deep-water channels and basins except undredged northward extension to inner basin at Harbor Island and branch channel to LaQuinta; and widen Industrial Channel to 400 feet with flared entrances to Corpus Christi and Avery Point turning basins.	H. Doc. 361, 85th Cong., 2nd Sess.
	Jul. 3, 1958	Channel 40 by 200 feet extending 2.2 miles from Tule Lake turning basin to a turning basin 40 feet deep, 700 to 900 feet wide, 1,000 feet long at Viola, Texas.	H. Doc. 361, 85th Cong., 2nd Sess.
	Jul. 3, 1958	Depth of 12 feet and a width of 100 feet in locally dredged Jewel Fulton Canal from LaQuinta Channel to a turning basin 12 by 200 by 400 feet, and assumption of maintenance by United States.	H. Doc. 361, 85th Cong., 2nd Sess.
	Jul. 14, 1960 (As amended by Dec. 31, 1970)	Construction of a breakwater at entrance to harbor area at Port Aransas, and realignment of existing 12-foot by 100-foot project channel.	Sec. 107, PL-86-645
	Aug. 13, 1968	Provides for a project depth of 45 feet in the existing deep-draft channels and basins, for construction of a new deep-draft turning point, for construction of a deep draft mooring area and mooring facilities and for widening of the channels and basins at certain locations. The Act also deauthorized the undredged northward extension of Inner Basin at Harbor Island and the undredged west turnout (Wye connection) between the LaQuinta Channel and the main channel of the waterway.	S. Doc. 99, 90th Cong., 2nd Sess.[1]
	Oct. 22, 1976	Modified local cooperation requirements for 1968 Act. Shifted responsibility for cost of disposal areas and confinement works from sponsor to joint 75 percent Federal and 25 percent non-Federal responsibility.	Sec. 124, PL 94-587
	Sep. 15, 1994	Assume maintenance of 17-foot by 100-foot Jewel Fulton Canal, after construction by local interest.	Sec. 204, PL 99-662 as amended

TABLE 40-B AUTHORIZING LEGISLATION

See Section in Text	Date Authorizing Act	Project and Work Authorized	Documents
7.		**DOUBLE BAYOU, TX.**	
	Mar. 3, 1899	A channel 6-feet deep and 100-feet wide through the bar at mouth of Double Bayou.	H. Doc. 387, 55th Cong., 2nd Sess.
	Jul. 14, 1960 (As amended Oct. 25, 1965)	**7-**foot by 125-foot channel from the 7-foot depth in Trinity Bay to the intersection of Double Bayou Channel with the channel to Liberty; and thence a 7- by 100-foot channel upstream for 2.0 miles.	Sec. 107, PL 86-646
8.		**FREEPORT HARBOR, TX**	
	Mar. 3, 1899	Dredging and other work necessary in judgment of Secretary of War for improving harbor; for taking over jetties and privately built works at mouth of river.	Specified in Act.
	Mar. 2, 1907	Examination authorized. Work later confined to maintenance of jetties.	H. Doc. 1087, 60th Cong., 2nd Sess.
	Feb. 27, 1911	Repairs to jetties and dredging.	Specified in Act.
	Mar. 4, 1913	Construct seagoing hopper dredge.	Specified in Act.
	Aug. 8, 1917	Purchase of one 15-inch pipeline dredge and equipment, its operation of 3 years, operation of seagoing dredge one-half time for 3 years, and repairs to jetties.	Specified in Act.
	Mar. 3, 1925[6]	Diversion dam, diversion channel, and necessary auxiliary works.	Rivers and Harbors Committee Doc. 10, 68th Cong., 2nd Sess.
	Jul. 3, 1930	Maintenance of diversion channel at expense of local interest.	Rivers and Harbors Committee Doc. 18, 70th Cong., 1st Sess.
	Aug. 30, 1935	Deepening channels and basins.	Rivers and Harbors Committee Doc. 15, 72nd Cong., 1st Sess.
	Aug. 30, 1935	Maintenance of present project dimensions of channels and basins at Federal expense.	Rivers and Harbors Committee Docs. 15, 72nd Cong., 1st Sess., and 29, 73rd Cong., 2nd Sess.
	May 17, 1950	Deepen outer bar channel to 38 feet from gulf to a point within jetties, thence 36 feet in authorized channels to and including upper turning basin.	H. Doc. 195, 81st Cong., 1st Sess.

TABLE 40-B AUTHORIZING LEGISLATION

See Section in Text	Date Authorizing Act	Project and Work Authorized	Documents
		FREEPORT HARBOR, TX (continued)	
	Jul. 3, 1958	Relocate outer bar channel on straight alignment with jetty channel and maintain Brazos Harbor entrance channel and turning basin (constructed by local interests).	H. Doc. 433, 84th Cong., 2nd Sess.
	Oct. 5, 1961	Modification of HD 1469. Revoking certain provisions of local cooperation.	PL 394, 87th Cong.
	Dec. 31, 1970	Relocation of entrance channel and deepen to 47 feet; enlargement to a depth of 45 feet and relocation of jetty channel and inside main channel; deepening to 45 feet of channel to Brazosport; enlargement of the widened area of Quintana Point to provide a depth of 45 feet with a 750-foot diameter turning area; Brazosport turning basin to 45 feet deep with a 1,000 foot turning area; a new turning basin with a 1,200 foot diameter turning area and 45 feet deep; deepening Brazosport channel to 36 by 750 feet diameter; flared approaches from Brazos Harbor Channel; relocation of north jetty and rehabilitation of south jetty.	H. Doc. 289, 93rd Cong., 2nd Sess.[2]
	Nov. 17, 1986	Modified local cooperation requirements for the 1970 Act.	Sec. 101, PL 99-662
9.		**GALVESTON HARBOR AND CHANNEL, TX**	
	Aug. 5, 1886	Construct 2 rubblestone jetties at entrance to Galveston Harbor.	H. Doc. 85, 49th Cong., 1st Sess., and Annual Report, 1886, p. 1311.
	Jun. 13, 1902	A channel 1,200 by 30 feet from Bolivar Roads (outer end of old inner bar near Fort Point) at 51st Street.[8]	H. Doc. 264, 56th Cong., 2nd Sess.
	Mar. 3, 1905	Purchase or construct hydraulic pipeline dredge.	Specified in Act.
	Mar. 2, 1907	Extension of jetties to present project length and construction and operation of a dredge.	H. Doc. 340, 59th Cong., 2nd Sess., and Rivers and Harbors Committee Doc. 11, 59th Cong., 2nd Sess.
	Mar. 2, 1907[9]	Extension of Galveston Channel from 51st to 57th Sts., with depth of 30 feet and width of 700 feet.	H. Doc. 768, 59th Cong., 2nd Sess.
	Jun. 25, 1910[9]	Conditional extension of Galveston Channel between 51st and 57th Sts., 30 feet deep and 1,000 feet wide.	H. Doc. 328, 61st Cong., 2nd Sess
	Jul. 27, 1916	Extend seawall at Galveston from angle at 6th St., and Broadway to vicinity of Fort San Jacinto.	H. Doc. 1390, 62nd Cong., 3rd Sess.
	Jul. 18, 1918	Deepen harbor channel to 35 feet and widen to 800 feet.	H. Doc 758, 65th Cong., 2nd Sess.

TABLE 40-B AUTHORIZING LEGISLATION

See Section in Text	Date Authorizing Act	Project and Work Authorized	Documents
		GALVESTON HARBOR AND CHANNEL, TX (continued)	
	Sep. 22, 1922	Further extension of seawall at Galveston to a junction with south jetty; and repairing seawall in front of Fort Crockett reservation.	H. Doc. 693, 66th Cong., 2nd Sess.
	Jan. 21, 1927[11]	Deepen Galveston Channel to 32 feet; and maintain Galveston Harbor channels to dimensions of 800 feet wide, 35 feet deep on outer bar and 34 feet deep in inner bar.[10]	H. Doc. 307, 69th Cong., 1st Sess.
	Aug 30, 1935	Maintain State Highway Ferry Landing Channels to dimensions of 12 by 100 feet.	River and Harbors Committee Doc. 31, 72nd Cong. 1st Sess.
	Aug 30, 1935	Construct 13 groins along gulf shore from 12th to 61st Sts. in city of Galveston at a limited cost of $234,000 (10 Groins constructed)	H. Doc. 400, 73rd Cong., 2nd Sess.
	Aug. 30, 1935	Deepen Galveston Channel to 34 feet (Bolivar Roads to 43rd St.).	Rivers and Harbors Committee Doc. 61, 74th Cong., 1st Sess.
	Aug. 30, 1935	Deepen Galveston entrance channel to 36 feet.	Rivers and Harbors Committee Doc. 57, 74th Cong., 1st Sess.
	Apr. 4, 1938	Completion of project for construction of 13 groins.	PL 463, 75th Cong.
	Jun. 30, 1948	Deepen Galveston Harbor to 38 feet from gulf to a point 2 miles west of seaward end of north jetty; thence 36 feet to Bolivar Roads; revoking authority for maintenance of ferry channels; and Galveston channel to 36 feet deep from Bolivar Roads to 43rd Street.	H. Doc. 561, 80th Cong., 2nd Sess.
	May 17, 1950	Deepen outer bar channel to 38 feet from gulf to a point within jetties, thence 36 feet in authorized channels to and including upper turning basin.	H. Doc. 195, 81st Cong., 1st Sess.
	Jul. 3, 1958	Dredge to a depth of 42 feet over the authorized width of 800 feet from the Gulf of Mexico to a point 2 miles west of the seawall and of the North jetty thence at a depth of 40 feet to the junction of the Houston Ship Channel, with widths of 800 feet to Bolivar Roads, thence decreasing to 400 feet at the junction with the Houston Ship Channel.	H. Doc. 350, 85th Cong., 2nd Sess.
	Jun. 23, 1971 (House Res.) Nov. 18, 1971 (Senate Res.)	Deepen Galveston Channel to 40 feet from Bolivar to 43rd Street.	H. Doc. 121, 92nd Cong
	Oct. 12, 1996	Provides for navigation and environmental restoration improvements. The navigation improvements consist of deepening and widening the Entrance Channel to 47 feet deep and 800 feet wide; the Houston Ship Channel to 45 feet deep and 530 feet wide; and the Galveston Channel to 45 feet deep. The environmental restoration portion consist of initial construction of marsh habitat and a colonial water bird nesting island through the beneficial use of new work dredged material, and incremental development (deferred construction) of additional marsh over the life of the navigation project through the beneficial use of maintenance materials dredged from Galveston Bay. The project is referred to as Houston-Galveston Navigation Channels.	Sec. 101 (30) PL 104-303

TABLE 40-B AUTHORIZING LEGISLATION

See Section in Text	Date Authorizing Act	Project and Work Authorized	Documents
10.		**GULF INTRACOASTAL WATERWAY BETWEEN APALACHEE BAY, FL AND MEXICAN BORDER**	
	Mar. 2, 1907	Channel 4 by 100 feet from West Galveston Bay across Chocolate Bay to 4 feet of water in Chocolate Bay.	H. Doc. 445, 56th Cong., 1st Sess.
	Mar. 3, 1925	Channel 9 by 100 feet, Sabine River to Galveston Bay, and a 20-inch pipeline dredge. Such passing places, widening at bends, locks or guard locks and railway bridges over artificial cuts as are necessary.	H. Doc. 238, 68th Cong., 1st Sess.
	Jan. 21, 1927	Channel 9 by 100 feet, Galveston Bay to Corpus Christi.	H. Doc. 238, 68th Cong., 1st Sess.
	Aug. 26, 1937	Maintenance of a flood-discharge channel in Colorado River.	S. Committee print, 75th Cong., 1st Sess.
	Jun. 20, 1938[13]	Channel 9 by 100 feet in San Bernard River, Texas.	H. Doc. 640, 75th Cong., 3rd Sess.
	Jun. 20, 1938	Channel in Colorado River, 9 by 100 feet, with basin.	H. Doc. 642, 75th Cong., 3rd Sess.
	Jun. 20, 1938	Channel 9 by 100 feet from Palacios through Trepalacios and Matagorda Bays.	H. Doc. 564, 75th Cong., 3rd Sess.
	Jun. 20, 1938	Channel 9 by 200 feet from main channel to harbor at Rockport and improve harbor to 9-foot depth.	H. Doc. 641, 75th Cong., 3rd Sess.
	Jun. 20, 1938	Channel 6 by 100 feet from main channel to Aransas Pass, Texas.	H. Doc. 643, 75th Cong., 3rd Sess.
	Mar. 23, 1939	Enlarge waterway to depth of 12 feet and a width of 125 feet from Sabine River to Corpus Christi.	H. Doc. 230, 76th Cong., 1st Sess.
	Jul. 23, 1942	Construct waterway from Corpus Christi to vicinity of Mexican border to provide a depth of 12 feet and width of 125 feet throughout.	PL 675, 77th Cong.
	Mar. 2, 1945	Channel 6 by 60 feet from GIWW to a point in Chocolate Bayou near Liverpool.	H. Doc. 337, 76th Cong., 1st Sess.
	Mar. 2, 1945[9]	Channel 6 feet deep and 60 feet wide from main channel near Port O'Connor, Texas, in Barroom Bay.	H. Doc. 428, 76th Cong., 1st Sess.
	Mar. 2, 1945	Enlarge channel from main channel to Aransas Pass, Texas, providing a depth of 9 feet and width of 100 feet.	H. Doc. 383, 77th Cong., 1st Sess.
	Mar. 2, 1945	Channel 12 by 125 feet from main channel to Red Fish Landing, Texas, with basin.	S. Doc 248, 78th Cong., 2nd Sess.
	Mar. 2, 1945[14]	Channel 12 feet deep and 125 feet wide from main channel to vicinity of Harlingen, Texas, via Arroyo Colorado with basin.	H. Doc. 402, 77th Cong., 1st Sess. (See PL 14, 79th Cong.)

TABLE 40-B AUTHORIZING LEGISLATION

See Section in Text	Date Authorizing Act	Project and Work Authorized	Documents
		GULF INTRACOASTAL WATERWAY (continued)	
	Jul. 24, 1946	Fill a portion of shallow-draft channel adjacent to Port Isabel Turning Basin, construct a channel to connect shallow-draft channel with main channel near shoreline of Laguna Madre, and enlarge shallow-draft channel west of this connection, all to 12-foot depth and bottom width of 125 feet.	H. Doc. 627, 79th Cong., 2nd Sess.
	Jul. 24, 1946	Reroute main channel to north shore of Red Fish Bay between Aransas Bay and Corpus Christi Bay; deepen tributary channel from Port Aransas to Aransas Pass, Texas, 12 feet and extended basin at same depth.	H. Doc. 700, 79th Cong., 2nd Sess.
	May 17, 1950	Deauthorized 6 by 60 foot channel in Chocolate Bayou and reauthorized the 4 by 100-foot channel.	H. Doc. 768, 80th Cong., 2nd Sess.
	May 17, 1950	Alternate channel across South Galveston Bay between Port Bolivar and Galveston causeway.	H. Doc. 196, 81st Cong., 1st Sess.
	May 17, 1950	"Red Fish Landing" changed to "Port Mansfield, Texas."	PL 516, 81st Cong.
	Jul. 12, 1952	Incorporate as part of Intracoastal Waterway a channel 9 by 100 feet from main channel via Seadrift to point on Guadalupe River 3 miles above Victoria, Texas, authorized by River and Harbor Act of 1945.	PL 527, 82nd Cong., 2nd Sess.
	Sep. 3, 1954[15]	Small craft harbor 9 by 200 by 1,000 feet at Seadrift with an entrance channel 9 by 100 feet.	H. Doc. 478, 81st Cong., 2nd Sess.
	Sep. 3, 1954	Widen tributary channel between Port Aransas and Aransas Pass, Texas, to 125 feet; straighten and widen to 125 feet connecting channel to Conn Brown Harbor, and maintain Conn Brown Harbor at Federal expense, all to 12 feet deep.	H. Doc. 376, 83rd Cong., 2nd Sess.
	Sep. 9, 1959	Improve channels and basins comprising channel to Port Mansfield constructed in part by Federal Government and in part by local interest; constructing turnout curves at Gulf Intracoastal Waterway intersection and bend easing at entrance to turning basin; construct parallel jetties at gulf entrance; maintenance of locally dredged jetty channel 16 by 250 feet; and maintenance of small craft basin.	S. Doc. 11, 86th Cong., 1st Sess.
	Jul. 14, 1960	Entrance channel 7 feet deep by 75 feet wide from main channel to Gulf of Mexico to inside shoreline at Port Isabel, Texas, an inner channel 6 feet deep by 50 feet wide from entrance channel to East Harbor Basin, and an irregular-shaped harbor basin 6 feet deep having a surface area of about 7 acres.	Sec. 107, PL 645, 86th Cong.
	Jul. 14, 1960 (As amended Dec. 31, 1970)	Deepen the existing 6-foot channel at Port Isabel to 12 feet and removing the submerged bars at each end of the island to a depth of -12 feet MLT.	Sec. 107, PL 86-645
	Jul. 14, 1960 (As amended Dec. 31, 1970)	Deepening the existing channel to 12 by 125 feet, and extend southeasterly from the Gulf Intracoastal Waterway main channel in West Galveston Bay, into Offatts Bayou, a distance of 2.2 miles, and a west turnout 12 by 125 feet between the proposed Offatts Bayou Channel and the Gulf Intracoastal Waterway.	Sec. 107, PL 86-645

TABLE 40-B AUTHORIZING LEGISLATION

See Section in Text	Date Authorizing Act	Project and Work Authorized	Documents
		GULF INTRACOASTAL WATERWAY (continued)	
	Jul. 14, 1960 (As amended Dec. 31, 1970)	Deepening Aransas Pass tributary channel to 14 feet from mile 0 at Harbor Island to mile 6.1 at the city of Aransas Pass; widening to 175 feet between miles 3.5 and 4.6; and deepening Conn Brown Harbor, turning basin and connecting channel between Conn Brown Harbor and turning basin.	Sec. 107, PL 86-645
	Oct. 23, 1962[16]	Improve main channel 16 feet deep and 150 feet wide from Sabine River to Houston Ship Channel; with two relocations; relocate main channel in Matagorda Bay and Corpus Christi Bay; and maintaining existing Lydia Ann Channel.	H. Doc. 556, 87th Cong., 2nd Sess.
	Oct. 23, 1962	Deepen and widen channel to Palacios; construct two protective breakwaters; maintain and deepen existing basins; and deepen, enlarge and maintain existing approach channel to basin No. 2.	H. Doc. 504, 87th Cong., 2nd Sess.
	Oct. 23, 1962	Eliminates requirement of local interest to construct bridge at mile 29.2 turning basin at Victoria, and maintain turning basins at Victoria and Seadrift; provide: Federal construction of vertical-lift railroad bridge at Missouri-Pacific Railroad mainline crossing, mile 29.2; construction and future maintenance of basin near Victoria, Texas, and maintenance of basin constructed by local interests at Seadrift, Texas.	H. Doc. 288, 87th Cong., 2nd Sess.
	Oct. 27, 1965[17]	Modify existing Federal navigation project to provide a channel extending from Gulf Intracoastal Waterway through Chocolate Bay and Chocolate Bayou to project channel mile 8.2, thence to a turning basin near channel mile 13.2 and for salt water barrier in Chocolate Bayou about 3.7 miles upstream from basin (channel mile 16.9).	H. Doc. 217, 89th Cong., 1st Sess.
	Aug. 13, 1968	Entrance channel 15 feet deep and 200 feet wide at the mouth of Colorado River Channel protected by an east jetty 3,500 feet long extending to 12-foot depth and a west jetty 2,900 feet long extending to 5-foot contour; make channel 12 feet by 100 feet from gulf shore to Matagorda, including recreation facility, a turning basin 12 feet by 300 feet wide and 1,450 feet long, and a new diversion channel 250 feet wide and varying in depth from 20 to 23 feet including a closure dam across the present river channel.	S. Doc. 102, 90th Cong., 2nd Sess.
	Nov. 17, 1986	Modified 1968 authorization to provide that diversion features be constructed at Federal expense and operation and maintenance be shared 75 percent Federal and 25 percent non-Federal.	Sec. 812, PL 99-662
	Nov. 17, 1988	Enlarge existing Channel to Victoria from a depth of 9 feet and width of 100 feet to a depth of 12 feet and width of 125 feet.	Sec. 3, PL 100-676
	Oct. 31, 1992	Provide 8 miles of erosion protection for the existing waterway in the vicinity of Sargent, Texas.	Sec. 101 (20), PL 102-580
	Oct. 12, 1996	Provides for erosion protection along a 31-mile reach of the Gulf Intracoastal Waterway, which crosses the critical wintering habitat of the endangered whooping crane, including a 13.25-mile reach within the boundary of the Aransas National Wildlife Refuge. Also, provides for limited oil spill containment features and equipment to protect those areas from accidental hazardous spills.	Sec. 101 (29), PL 104-303

TABLE 40-B AUTHORIZING LEGISLATION

See Section in Text	Date Authorizing Act	Project and Work Authorized	Documents
11.		**HOUSTON-GALVESTON NAVIGATION CHANNELS, TX**	
	Oct. 12, 1996	Provides for navigation and environmental restoration improvements. The navigation improvements consist of deepening and widening the Entrance Channel to 47 feet deep and 800 feet wide; the Houston Ship Channel to 45 feet deep and 530 feet wide; and the Galveston Channel to 45 feet deep. The environmental restoration portion consist of initial construction of marsh habitat and a colonial water bird nesting island through the beneficial use of new work dredged material, and incremental development (deferred construction) of additional marsh over the life of the navigation project through the beneficial use of maintenance materials dredged from Galveston Bay.	Sec. 101 (29) PL 104-303
	Oct. 27, 2000	Provides for barge lanes immediately adjacent to either side of the Houston Ship Channel, from Bolivar roads to Morgan Point, to a depth of 12 feet.	Appendix B, PL 106-377
12.		**HOUSTON SHIP CHANNEL, TX**	
	Mar. 5, 1905	Easing or cutting off sharp bends and construction of a pile dike.[18]	Rivers and Harbors Committee Doc. 35, 61st Cong., 2nd Sess.
	Mar. 2, 1919	A channel 30 feet deep, widen bend at Manchester and enlarge turning basin.	H. Doc. 1632, 65th Cong., 3rd Sess.
	Mar. 3, 1925	A light-draft extension of channel to mouth of White Oak Bayou.[19]	H. Doc. 93, 67th Cong., 1st Sess.
	Jul. 3, 1930	Widen channel through Morgan Point and to a point 4,000 feet above Baytown and widen certain bends.	H. Doc. 13, 71st Cong., 1st Sess.
	Aug. 30, 1935[11]	Deepen to 32 feet in main channel and turning basin, and a 400-foot width through Galveston Bay.	Rivers and Harbors Committee Doc. 28, 72nd Cong., 1st Sess.
	Aug. 30, 1935	Deepen to 34 feet in main channel and widen from Morgan Point to turning basin	Rivers and Harbors Committee Doc. 58, 74th Cong., 1st Sess.
	Mar. 2, 1945	Branch channel 10 by 60 feet behind Brady Island.	H. Doc. 226, 76th Cong., 1st Sess.
	Mar 2, 1945	Widen channel from Morgan Point to lower end of Fidelity Island with turning points at mouth of Hunting Bayou and lower end of Brady Island.	H. Doc. 226, 76th Cong., 1st Sess.
	Mar. 2, 1945	Widen channel from lower end of Fidelity Island to Houston turning basin and dredge off-channel silting basins.	H. Doc. 737, 79th Cong., 2nd Sess.
	Jun. 30, 1948	Deepen to 36 feet from Bolivar Roads to and including main turning basin at Houston, Texas, including turning points at Hunting Bayou and Brady Island.	H. Doc. 561, 80th Cong., 2nd Sess.

TABLE 40-B AUTHORIZING LEGISLATION

See Section in Text	Date Authorizing Act	Project and Work Authorized	Documents
		HOUSTON SHIP CHANNEL, TX (continued)	
	Jul. 3, 1958[20]	Deepen to 40 feet from Bolivar Roads to Brady Island, construct Clinton Island turning basin, a channel 8 by 125 feet at Five Mile Cut, and improve shallow-draft channel at Turkey Bend.	H. Doc. 350, 85th Cong., 2nd Sess.[1]
	Jul. 14, 1960	Barbour Terminal at Morgan Point.	Sec. 107, PL 86-645
	Oct. 27, 1965H. Doc. 257, 89th Cong., 1st Sess.	Restoring existing locally dredged channel from mile 0 to 0.34 to 36 feet deep and dredging a 15-12 ft. channel from mile 0.34 to 2.81, in Greens Bayou.[21]	H. Doc. 257, 89th Cong., 1st Sess.
	Nov. 17, 1986	Maintenance of Greens Bayou, Barbour Terminal Channel, and Bayport Ship Channel to forty-foot depths at Federal expense.	Sec. 819, PL 99-662
	Oct. 12, 1996	Provides for navigation and environmental restoration improvements. The navigation improvements consist of deepening and widening the Entrance Channel to 47 feet deep and 800 feet wide; the Houston Ship Channel to 45 feet deep and 530 feet wide; and the Galveston Channel to 45 feet deep. The environmental restoration portion consist of initial construction of marsh habitat and a colonial water bird nesting island through the beneficial use of new work dredged material, and incremental development (deferred construction) of additional marsh over the life of the navigation project through the beneficial use of maintenance materials dredged from Galveston Bay. The project is referred to as Houston-Galveston Navigation Channels.	Sec. 101 (30) PL 104-303
13.		**MATAGORDA SHIP CHANNEL, TX**	
	Jun. 25, 1910	Channel to Port Lavaca, Texas 7 feet deep and 89 feet bottom width.	H. Doc. 1082, 60th Cong., 2nd Sess.
	Aug. 30, 1935	Extend 7-foot channel to shoreline of Lavaca Bay at mouth of Lynns Bayou.	Rivers and Harbors Committee Doc. 28, 74th Cong., 1st Sess.
	Aug. 26, 1937	Deepen and widen channel to present project dimensions.	Rivers and Harbors Committee Doc. 37, 75th Cong., 1st Sess.
	Mar. 2, 1945	Extend channel 6 by 100 feet from Port Lavaca via Lavaca Bay, Lavaca and Navidad Rivers to Red Bluff, a distance of 20 miles.	H. Doc. 314, 76th Cong., 1st Sess.
	Mar. 2, 1945	A harbor of refuge 9 feet deep near Port Lavaca and an approach channel 100 feet wide and equal depth.	H. Doc. 731, 79th Cong., 2nd Sess.

TABLE 40-B AUTHORIZING LEGISLATION

See Section in Text	Date Authorizing Act	Project and Work Authorized	Documents
		MATAGORDA SHIP CHANNEL, TX (Continued)	
	Jul. 3, 1958	Deepen to 12 feet and widen to 125 feet Port Lavaca Channel and approach channel to harbor of refuge; deepen to 12 feet Port Lavaca turning basin and basins at harbor of refuge.	H. Doc. 131, 84th Cong., 1st Sess.
	Jul. 3, 1958	An entrance channel 38 by 300 feet, a channel 36 by 200 feet, 22 miles long across Matagorda and Lavaca Bays to Point Comfort, Texas, a turning basin 36 feet deep and 1,000 feet square at Point Comfort, and dual jetties at entrance from gulf.	H. Doc. 388, 84th Cong., 2nd Sess.
14.		**NECHES RIVER AND TRIBUTARIES, SALT WATER BARRIER AT BEAUMONT, TX**	
	Oct. 22, 1976	Construct gated salt water barrier in Neches River consisting of seven 40 x 24.5 foot tainter gates; gated navigation by-pass channel with clear opening of 56 feet and depth of 16 feet; access road and levee; and auxiliary dam across canal which drains adjacent bayou.	Sec. 102, PL 94-587
15.		**SABINE-NECHES WATERWAY, TX.**	
	Jul. 25, 1912	Existing project dimensions of jetties, a 26-foot channel through Sabine Pass, Port Arthur Canal and Port Arthur turning basin; and a 26-foot turning basin at Port Arthur. A depth of 25-feet in Sabine-Neches Canal, Neches River to Beaumont and Sabine River to Orange, including cutoffs and widening channels.	H. Doc. 773, 61st Cong., 2nd Sess.
	Sep. 22, 1922	Deepen channels to 30 feet from gulf to Beaumont, with increased widths and an anchorage basin in Sabine Pass.	H. Doc. 975, 66th Cong., 3rd Sess.
	Sep. 22, 1922	Deepen Port Arthur east and west turning basins and approach channel to 30 feet. Take over and deepen to 30 feet channel connecting west turning basin with Taylors Bayou turning basin. For a 30-foot depth in channel from mouth of Neches River to cutoff in Sabine River near Orange.	S. Doc. 152, 67th Cong., 2nd Sess.
	Mar. 3, 1925	Removal of guard lock in Sabine-Neches Canal.	H. Doc. 234, 68th Cong., 1st Sess.
	Jan. 21, 1927	Widen Sabine Pass and jetty channel, Port Arthur Canal, and Sabine-Neches Canal. For dredging 2 passing places in Sabine-Neches Canal, easing of bends, removal and reconstructing Port Arthur field office, extending Beaumont turning basin upstream 200 feet above new city wharves, and an anchorage basin in Sabine Pass.	H. Doc 287, 69th Cong., 1st Sess.
	Aug. 30, 1935[11]	A depth of 32 feet in channels from gulf to Beaumont turning basin, including all turning basins at Port Arthur.	Rivers and Harbors Committee Doc. 27, 72nd Cong., 1st Sess.
	Aug. 30, 1935[11]	Deepen channels to 34 feet with increased widths from gulf to Beaumont turning basin.	Rivers and Harbors Committee Doc. 12, 74th Cong., 1st Sess.

TABLE 40-B AUTHORIZING LEGISLATION

See Section in Text	Date Authorizing Act	Project and Work Authorized	Documents
		SABINE-NECHES WATERWAY, TX (continued)	
	Aug. 30, 1935	Construct suitable permanent protective works along Sabine Lake. Maintain Taylors Bayou turning basin.	Specified in Act.
	Aug. 26, 1937	Maintain channel from Sabine River to Orange Municipal wharf.	Rivers and Harbors Committee Doc. 3, 75th Cong., 1st Sess.
	Aug. 26, 1937	Dredging 500 feet from eastern end of Harbor Island and abandonment of channel south and west of Harbor Island.	Rivers and Harbors Committee Doc. 20, 75th Cong., 1st Sess.
	Jun. 20, 1938[22]	Increased widths of channels from gulf to Beaumont turning basin and channel connecting Port Arthur west turning basin and Taylors Bayou turning basin, deepen Beaumont turning basin and Beaumont turning extension to 34 feet; and dredge a new cutoff from Smith's Bluff cutoff to McFadden Bend.	H. Doc. 581, 75th Cong., 3rd Sess.
	Oct. 17, 1940	Abandon Orange turning basin; dredge a channel 25 by 150 feet, suitably widened on bends to highway bridge, and dredge a cutoff channel opposite Orange.	S. Doc 14, 77th Cong., 1st Sess.
	Mar. 2, 1945	Extend Beaumont turning basin upstream 300 feet.	H. Doc. 685, 76th Cong., 3rd Sess.
	Mar. 2, 1945	Widen Port Arthur west turning basin to 600 feet.	S. Doc 60, 77th Cong., 1st Sess.
	Mar. 2, 1945	Dredge a channel from Beaumont turning basin to vicinity of Pennsylvania Shipyard.	S. Doc 158, 77th Cong. 2nd Sess.
	Jul. 24, 1946[23]	Deepen Sabine Pass outer bar channel to 37 feet, Sabine Pass jetty channel to 36 feet at inner end, deepen to 36 feet Sabine Pass Channel, Port Arthur Canal, Port Arthur east and west turning basins, Taylors Bayou turning basin and channel from Port Arthur west turning basin to Taylors Bayou turning basin, deepen to 36 feet and widen to 400 feet Sabine-Neches Canal from Port Arthur Canal to mouth of Neches River except through Port Arthur Bridge; deepen Neches River channel from mouth to Beaumont turning basin to 36 feet widening to 350 feet from Smith's Bluff to Beaumont turning basin; deepen junction area on Neches River at Beaumont turning basin to 36 feet; and widen Sabine-Neches Canal between Neches and Sabine Rivers to 150 feet.	H. Doc. 571, 79th Cong., 2nd Sess.
	Jul. 24, 1946[24]	Improve Cow Bayou, Texas, by construction of a channel 100 feet wide and 13 feet deep extending from navigation channel in Sabine River to a point 0.5 mile above county bridge at Orangefield, Texas, with a turning basin.	H. Doc. 702, 79th Cong., 2nd Sess.

TABLE 40-B AUTHORIZING LEGISLATION

See Section in Text	Date Authorizing Act	Project and Work Authorized	Documents
		SABINE-NECHES WATERWAY, TX (continued)	
	Jul. 24, 1946	Improve Adams Bayou, Texas, to provide a channel 12 feet deep and 100 feet wide extending from 12-foot depth in Sabine River to first county highway bridge across bayou.	H. Doc. 626, 79th Cong., 2nd Sess.
	May 17, 1950	Deepen to 36 feet and widen to 400 feet the Sabine-Neches Canal near Port Arthur bridge; reconstruct Port Arthur Bridge and relocate Port Arthur field office.	H. Doc. 174, 81st Cong., 1st Sess.
	Sep. 3, 1954[25]	Rectification of certain reaches of existing Sabine Pass Channel, Sabine-Neches Canal, and Neches River and Sabine River Channel; widen to 350 feet entrance channel to Port Arthur turning basins; widen curve at junction of Port Arthur and Sabine-Neches Canals; relocate and enlarge Sabine Pass anchorage basin to 34 by 1,500 by 3,000 feet; widen to 200 feet Sabine-Neches Canal from mouth of Neches River to mouth of Sabine River and Sabine River Channel to upper end of existing project at Orange, except for channel around Harbor Island at Orange; deepen to 30 feet Sabine River Channel from cutoff near Orange municipal slip to upper end of project, except around Harbor Island; and enlarge area at entrance to Orange municipal slip to provide a maneuvering basin.	S. Doc. 80, 83rd Cong., 2nd Sess.
	Oct. 23, 1962[26]	Improve outer bar channel to 42 and 40 feet for all inland channels to Port Arthur and Beaumont; width of 500 feet in Port Arthur Canal and 400 feet in Neches River Channel to Beaumont with three turning points in Neches River; a channel, 12 by 125 feet, extending in Sabine River to Echo; and replace an obstructive bridge at Port Arthur, Texas. Deauthorization of uncompleted portion of channel between Port Arthur west turning basin and Taylors Bayou turning basin and enlargement of entrance channel to Port Arthur turning basins.	H. Doc. 553, 87th Cong., 2nd Sess.[1]
16.		**TEXAS CITY CHANNEL, TX**	
	Mar. 4, 1913	A channel 300 by 30 feet and construct a pile dike 28,200 feet long north to channel.	H. Doc. 1390, 62nd Cong., 3rd Sess.
	Jul. 3, 1930	A harbor 800 by 30 feet at Texas City, and construct a rubblemound dike.	H. Doc. 107, 71st Cong., 1st Sess.
	Aug. 30, 1935[11]	Extension of rubblemound dike to shoreline.	Rivers and Harbors Committee Doc. 4, 73rd Cong., 1st Sess.
	Aug. 30, 1935	Deepen channel and harbor to 32 feet.	Rivers and Harbors Committee Doc. 46, 73rd Cong., 2nd Sess.
	Aug. 30, 1935	Deepen channel and harbor to 34 feet.	Rivers and Harbors Committee Doc. 62, 74th Cong., 1st Sess.

TABLE 40-B AUTHORIZING LEGISLATION

See Section in Text	Date Authorizing Act	Project and Work Authorized	Documents
		TEXAS CITY CHANNEL, TX (continued)	
	Aug. 26, 1937	Extend harbor 1,000 feet southward, 800 by 34 feet.	Rivers and Harbors Committee Doc. 47, 75th Cong., 1st Sess.
	Jun. 30, 1948	Deepen channel and harbor to 36 feet, widen channel to 400 feet and harbor to 1,000 feet and changing name of project to "TEXAS CITY CHANNEL, TEXAS."	H. Doc. 561, 80th Cong., 2nd Sess.[1]
	Jul. 14, 1960	Deepen channel and turning basin to 40 feet and construct 16-foot Industrial Barge Canal.	H. Doc. 427, 86th Cong., 2nd Sess.
	Oct. 12, 1972 Senate Res.) Oct. 12, 1972 (House Res.)	Widen the existing main turning basin to 1,200 feet including relocation of the basin 85 feet to the east; providing a 40-foot deep channel in the Industrial Canal at widths of 300-400 feet, with a turning basin at the head of the canal 40 feet deep, 1,150 feet long, and 1,000 feet wide, and easing of the bend at the entrance to the canal, and deauthorization of shallow-draft Industrial Barge Canal not incorporated in the plan of improvement above.	H. Doc. 199, 92nd Cong., 2nd Sess. (Sec. 201, PL 89-298)
	Nov. 17, 1986	Deepening the Texas City Turning Basin to 50 feet, enlarging the 6.7 mile long Texas City Channel to 50 feet by 600 feet; deepening the existing 800-foot wide Bolivar Roads Channel and Inner Bar Channel to 50 feet; deepening the existing 800-foot wide Outer Bar and Galveston Entrance Channels to 52 feet; extending the Galveston Entrance Channel to a 52 foot depth for 4.1 miles at a width of 800 feet and an additional reach at a width of 600 feet to the 52 foot contour in the Gulf of Mexico; and establishment of 600 acres of wetland and development of water-oriented recreational facilities on a 90-acre enlargement of the Texas City Dike.	Sec. 201, PL 99-662
17.		**TRINITY RIVER AND TRIBUTARIES, TX**	
	Jun. 18, 1878	Dredging of a channel through the bar at the mouth of the Trinity River.	
	1889	Modified to include two parallel jetties 275 feet apart, the westerly one of length 7,359 feet and the other of length 300 feet.	
	Jun. 13, 1902 (As amended Mar. 3, 1905, Mar. 2, 1907, Jun. 25, 1910, Jul. 25, 1912, Mar. 4, 1913, and Jul. 27, 1916)	Improvement of the Trinity River in the interest of providing navigation from the mouth of the Trinity River to Dallas. The plan provided for the construction of 37 locks and dams, with auxiliary dredging and other open-channel work necessary to obtain a 6-foot depth for continuous navigation (excepting periods of excessive drought). Each Act also authorized the construction of certain-named locks and dams.	H. Doc. 409, 56th Cong., 1st Sess.
	Mar. 3, 1905	Authorized the Anahuac Channel. No project dimensions were specified by the Act, so a 7- by 8-foot channel, 12,238 feet long was dredged in 1905.	Specified in Act.
	Sep. 22, 1922	Abandon improvements above Liberty and terminate all improvements by lock and dam, leaving a 6-foot channel from Liberty to mouth.	H. Doc. 989 66th Cong., 3rd Sess

TABLE 40-B AUTHORIZING LEGISLATION

See Section in Text	Date Authorizing Act	Project and Work Authorized	Documents
		TRINITY RIVER AND TRIBUTARIES, TX (continued)	
	Mar. 2, 1945	Provides for a navigable channel from the Houston Ship Channel near Red Fish Bar in Galveston and Trinity Bays to the mouth of Trinity River and 9 feet deep and 150 feet wide in the river section, with a turning basin at Liberty.	H. Doc. 403, 77th Cong., 1st Sess.
	Jul. 24, 1946	Modification of the project to provide for a channel 9 feet deep and 150 feet wide from the Houston Ship Channel near Red Fish Bar in Galveston Bay extending along the east shore of Trinity Bay to the mouth of the Trinity River at Anahuac, including protective spoil embankment on the bay side of the channel in lieu of the 9 by 200-foot channel in Galveston and Trinity Bays.	H. Doc. 634, 79th Cong., 2nd Sess.
	Oct. 23, 1962	Provides for the multiple-purpose Wallisville Reservoir, including a navigation lock in the Wallisville Dam at Channel Mile 28.30 and advancement of the Channel to Liberty from one mile below Anahuac (Mile 23.2) to the Texas Gulf Sulphur Company's slip at Channel Mile 35.8, and incorporation into existing project Anahuac Channel and mouth of Trinity River projects.	H. Doc. 215, 87th Cong., 1st Sess.
	Oct. 27, 1965	Reevaluation of navigation benefits.	H. Doc. 276, 89th Cong., 1st Sess.
	Jul. 30, 1983	Modified Wallisville Reservoir by reducing the size to 5,600 acres and confining the reservoir to east side of Trinity River.	PL 98-63
21.		**BUFFALO BAYOU AND TRIBUTARIES, TX**	
	Jun. 20, 1938	Barker and Addicks Reservoirs, Texas.	H. Doc. 456, 75th Cong., 2nd Sess.
	Sep. 3, 1954	Clearing, straightening, enlarging and lining of Buffalo, Brays, and White Oak Bayous.	H. Doc. 250, 83rd Cong., 2nd Sess.[1]
	Oct. 27, 1965	Extend upper limits of White Oak Bayou upstream about 2.1 miles from BRI RR bridge to mouth of Cole Creek.	H. Doc. 169, 89th Cong., 1st Sess.
	Nov. 28, 1990	Flood damage reduction improvements and recreational development for the Houston, Texas urban area, divided into six separable elements – Brays, Greens, Hunting, Halls, Carpenters and Little White Oak Bayous. Flood control improvements consist of 75.3 miles of stream enlargement, 14 miles of stream clearing, 7 flood detention basins, 7 miles of diversion channels and environmental revegetation. Recreation features consist of 14.7 miles of trails, 502 picnic facilities, 12 group pavilions, 2 boat launching ramps, 10 restrooms, playgrounds, exercise stations and parking facilities.	Sec. 101, PL 101-640

TABLE 40-B AUTHORIZING LEGISLATION

See Section in Text	Date Authorizing Act	Project and Work Authorized	Documents
		BUFFALO BAYOU AND TRIBUTARIES, TX (Continued)	
	Oct. 12, 1996	Authorizes non-Federal interests to undertake flood control projects in the United States, subject to obtaining any permits required pursuant to Federal and State laws in advance of actual construction. For the purpose of demonstrating the potential advantages and effectiveness of non-Federal implementation of flood control projects, the Secretary shall enter into agreements pursuant to this section with non-Federal interests for development of the following Buffalo Bayou projects: Brays Bayou, Hunting Bayou, and White Oak Bayou.	Sec. 211, PL 104-303
	Oct. 12, 1996	The non-Federal interest for the Buffalo Bayou and tributaries authorized flood control projects, may be reimbursed by up to $5,000,000 or may receive a credit of up to $5,000,000 toward required non-Federal project cost-sharing contributions for work performed by the non-Federal interest at each of the following locations if such work is compatible with 1 or more of the following authorized projects: White Oak Bayou, Brays Bayou, Hunting Bayou, Garners Bayou (not authorized), and the Upper Reach of Greens Bayou.	Sec 350, PL 104-303
23.		**CLEAR CREEK, TX**	
	Aug. 13, 1968	Channel enlargement and rectification from upper end of Clear Lake at Mile 3.8 to improved channel Mile 34.8.[28]	H. Doc. 351, 90th Cong., 2nd Sess.
	Nov. 17, 1986	Modified local cooperation requirements of the 1968 authorization.	Sec. 1001, PL 99-662
24.		**CYPRESS CREEK, TX**	
	Nov. 17, 1988	Enlargement and rectification of lower 29.4 miles of Cypress Creek channel and recreational development	Sec. 3, PL 100-676
	Aug. 17, 1999	Modified the project to authorize a nonstructural flood control project.	Sec. 355(a), PL 106-53
25.		**LOWER RIO GRANDE BASIN, TX**	
	Nov 17, 1986	Channel improvements to provide drainage protection for the area in Hidalgo and Willacy Counties north of U.S. Highway 83, and for the area between U.S. Highway 83 and the Rio Grande in Hidalgo County; and to provide flood protection for the cities of McAllen, Edinburg, Raymondville, Edcouch, La Villa, and Lyford.	Sec 401, PL 99-662
	Aug. 17, 1999	Modified the project to authorize a nonstructural flood control project.	Sec. 355(a), PL 106-53

TABLE 40-B AUTHORIZING LEGISLATION

See Section in Text	Date Authorizing Act	Project and Work Authorized	Documents
26.		**SIMS BAYOU, TX**	
	Nov. 17, 1986	Enlargement and rectification, with appropriate erosion control measures of 19.31 miles of Sims Bayou; environmental measures and riparian habitat along entire alignment, and recreational development.	Sec. 401, PL 99-662
	Sep. 29, 1989	Amended the Water Resources and Development Act (WRDA) of 1986 authorization as project cost estimate had exceeded limit established in Section 902 of WRDA 1986.	Sec. 103, PL 101-101
32.		**NORTH PADRE ISLAND, TX**	
	Aug. 17, 1999	Carry out a project for ecosystem restoration and storm damage reduction at North Padre Island, Corpus Christi Bay, Texas, if it is determined that the work is technically sound and environmentally acceptable.	Sec. 556, PL 106-53

[1] Contains latest published maps.

[2] Extension of north jetty 1,950 feet and south jetty 1,265 feet considered inactive. (1975 Deauthorization list)

[3] Dredging 2,000 by 650-foot northerly extension of inner basin deauthorized.

[4] Included in Public Works Administration program September 6, 1933 and February 16, 1935.

[5] West leg of Wye junction with main channel deauthorized.

[6] Construction of lock in diversion dam at local expense considered inactive.

[7] Dredging upper 1.3 mile of channel to vicinity of Stauffer Chemical plant was deauthorized under Sec. 12 of PL 93-251. Included in Public Works Administration program September 6, 1933. (1975 Deauthorization list)

[8] Dredging 43rd to 51st Streets was deauthorized under Sec. 12 of PL 93-251. (1975 Deauthorization list)

[9] Deauthorized under Sec. 12 of PL 93-251. (1975 Deauthorization list)

[10] Deepening 43rd to 57th Streets was deauthorized under Sec. 12 of PL 93-251. (1975 Deauthorization list)

[11] Previously authorized September 6, 1933 by Public Works Administration.

[12] H. Doc. 230, 76th Cong., 1st Sess. and project documents contain latest published maps.

[13] Dredging upper 3.4 miles was deauthorized under Sec. 12 of PL 93-251. (1975 Deauthorization list)

[14] Dredging upper 5 miles was deauthorized under Sec. 1001 of PL 99-662.

[15] Inactive.

[16] Portion of 16-foot by 150-foot channel from Sabine River to Houston Ship Channel is inactive. Relocation of channel in Matagorda Bay deauthorized under Sec. 12 of PL 93-251. (1986 Deauthorization list)

[17] The 9 feet by 100 feet channel from Mile 8.2 to Mile 13.2 in Chocolate Bayou was deauthorized under Sec. 1001 of PL 99-662.

[18] Construction of pile dike was deauthorized under Sec. 12 of PL 93-251. (1975 Deauthorization list)

[19] Hill Street Bridge to mouth of White Oak Bayou was deauthorized under Sec. 12 of PL 93-251. (1975 Deauthorization list)

[20] Deepening channel to 40 feet from Southern Pacific Slip (mile 47) to Brady Island was deauthorized under Sec. 12 of PL 93-251. (1975 Deauthorization list)

[21] The 12-foot channel from mile 1.65 to mile 2.81 deauthorized under Sec. 12 of PL 93-251. (1985 Deauthorization list)

[22] Complete widening of channel between Port Arthur west turning basin and Taylors Bayou turning basin deauthorized by 1962 R&H Act.

[23] Complete deepening of channel between Port Arthur west turning basin and Taylors Bayou turning basin deauthorized by 1962 R&H Act.

[24] Channel extension above Cow Bayou turning basin near Orangefield was deauthorized under Sec. 12 of PL 93-251. (1975 Deauthorization list)

[25] Widening to 350 feet entrance channel to Port Arthur turning basin deauthorized by 1962 R&H Act.

[26] The 12-foot channel in Sabine River from Orange to Echo, Texas deauthorized under Sec. 12 of PL 93-251. (1985 Deauthorization list)

[27] Jetty extension was deauthorized under Sec. 1001 of PL 99-662.

[28] Portion of project upstream of Brazoria/Galveston County line, approximately mile 18.5, in inactive category.

[29] Cedar Bayou, miles 3 to 11 were deauthorized under Sec. 12 of PL 93-251 and were re-authorized under Sec. 349(a)(2), PL 106-541.

[30] Channel to Port Bolivar turning basin was deauthorized under Sec. 1001 of PL 99-662.

TABLE 40-C
OTHER AUTHORIZED NAVIGATION PROJECTS

Project	For Last Full Report See Annual Report For	Cost to September 30, 2003	
		Construction	Operation and Maintenance
Aquatic Plant Control (1958 and 1962 River and Harbor Acts)	1967	38,252	–
Bastrop Bayou, TX[2]	1931	9,920	27,129
Corpus Christi, TX, Channel to Navy Seaplane Base Encinal Peninsula	1968	1,194,344	26,467
Dickinson Bayou, TX	1954	33,942	57,553
East Bay (Hanna Reef), TX[3]	1922	2,476	847
Greens Bayou Bridges, TX	1993	450,000	–
Johnson Bayou, LA[4]	1933	2,261	54,042
Little Bay, TX[5]	1979	–	252,728
Oyster Creek, TX	1922	6,942	7,556

[1] Excludes $1,672 work contribution.

[2] Widening from 60 feet to 100 feet at 4-foot depth was deauthorized under Sec. 12 of PL 93-251.

[3] Inactive category for maintenance.

[4] Channel adequate for existing commerce.

[5] Aransas County Navigation District, Rockport, TX, constructed project as authorized by 1950 River and Harbor Act (H. Doc. 114, 81st Cong., 1st Sess.) in 1955 under Department of Army permit.

TABLE 40-D
OTHER AUTHORIZED FLOOD CONTROL PROJECTS

Project	For Last Full Report See Annual Report For	Cost to September 30, 2003	
		Construction	Operation and Maintenance
Arroyo Colorado, Rio Hondo, TX[1]	1986	201,300	–
Buffalo Bayou at Piney Point, TX[2]	1996	473,800[9]	–
Colorado River, Matagorda, TX[2]	1963	273,757	–
Falfurrias, TX[1]	1995	103,454	–
Freeport and Vicinity, Texas, Hurricane-Flood Protection[2]	1984	29,285,042[3]	–
Guadalupe River at Victoria, TX[2]	1996	532,187[10]	
Guadalupe River (Remove Log Jams), TX[2]	1978	505,749	–
Highland Bayou, TX[13]	1984	12,254,390	–
Kirbyville, TX[2]	1993	1,484,613[4]	–
Lavaca-Navidad River, TX: Hallettsville Project	1961	256,043	–
Port Arthur and Vicinity Hurricane-Flood Protection, TX[2]	1997	61,400,292[11]	–
San Diego Creek, Alice, TX[2]	1963	135,175	–
State Highway 111 Bridge, Lake Texana, TX[2]	1995	214,155[5]	–
Taylors Bayou, TX[2]	1997	37,413,209[12]	–
Texas City and Vicinity, Texas, Hurricane-Flood Protection[2]	1993	38,882,400[7]	–
Tranquitas Creek, Kingsville, TX[2]	1956	130,239	–
Three Rivers, TX[5]	[6]	5,835,927[5]	–
Upper White Oak Bayou, TX[2]	1989	972,300	–
U.S. 190 Bridge, Sabine River, Merryville, LA[2]	1993	500,000[8]	–
Vince and Little Vince Bayous, TX[2]	1993	19,307,100	–

[1] Inactive.

[2] Completed.

[3] In addition, $8,695,438 expended from contributed funds, $1,126,905 estimated value of contributed lands, and $2,726,446 for relocations by local interests.

[4] In addition, $1,484,613 expended from contributed funds, estimated value of $200,096 for contributed lands, and $202,456 for relocations by local interests.

[5] In addition, $71,370 expended from contributed funds.

[6] See Annual Report for 1983, Fort Worth District, page 16-12.

[7] In addition, $14,396,307 expended from contributed funds, estimated value of $1,224,219 for contributed lands, and contributed work in the amount of $1,070,806 by local interests. Work performed at 100% Local Sponsor expense was in the amount of $320,347.

[8] In addition, $237,792 expended from contributed funds.

[9] In addition, $92,920 expended from contributed funds.

[10] In addition, $480,888 expended from contributed funds.

[11] In addition, $16,976,675 expended from contributed funds.

[12] In addition, $12,340,997 expended from contributed funds.

[13] Completed. Lower 8.6 miles of channel rectification on Highland Bayou was de-authorized April 5,1999.

TABLE 40-E
OTHER AUTHORIZED ENVIRONMENTAL RESTORATION PROJECTS

Project	For Last Full Report See Annual Report For	Cost to September 30, 2003	
		Construction	Operation and Maintenance
Corpus Christi Beach, TX (Beach Restoration) [1]	2000	2,120,641[2]	–
Laguna Madre Seagrass Restoration, TX [1]	1998	225,440[3]	–
Salt Bayou, McFadden Ranch, TX[1]	1997	1,754,000[4]	–

1 Completed
2 In addition $2,009,710 expended from contributed funds.
3 In addition $75,146 expended from contributed funds.
4 In addition, $576,877 expended from contributed funds and an estimated value of contributed lands in the amount of $8,000.

TABLE 40-F DEAUTHORIZED PROJECTS

Project	For Last Full Report See Annual Report For	Date And Authority	Federal Funds Expended	Contributed Funds Expended
Baytown	1980	Sec. 1001 of PL 99-662	245,000	------
Brazos River, TX, Velasco to Old Washington	1924	Sec. 1001 of PL 99-662 17 Nov 1986	216,989[1]	223,010
Corpus Christi Ship Ch - 1913 Act Jetty	------	Sec. 1001 of PL 99-662 19 Jul 1992	------	------
GIWW, Harbor Refuge at Seadrift	1978	Sec. 1001 of PL 99-662 19 Jul 1992	79,041	------
Liberty Local Protection Project, TX	1971	Sec. 1001 of PL 99-662 17 Nov 1986	98,517	------
Mill Creek Brazos River, Austin Co. 1946 Act	1952	Sec. 1001 of PL 99-662 1 Jan 1990	24,753	------
Navidad & Lavaca Rivers, Jackson and Lavaca Counties- General Channel Project	1952	Sec. 1001 of PL 99-662 1 Jan 1990	21,086	------
Peyton Creek, TX	1975	Sec. 1001 of PL 99-662 17 Nov 1986	66,377	------
Sabine River and Tributaries, TX (Echo to Morgan Bluff)	1971	Sec. 1001 of PL 99-662 17 Nov 1986	------	------

[1] Includes $123,676 for previous projects.

TABLE 40-G TOTAL COST OF EXISTING PROJECTS

See Section In Text	Project	Funds	New Work	Maintenance	Rehabilitation	Total Cost to Sep. 30, 2003
2.	Brazos Island Harbor, TX	Regular	24,346,787	71,461,008	2,170,080	97,977,875
		Public Works	2,848,560	0	0	2,848,560
		Contributed	10,571,509	1,352,092	0	11,923,601
		Total cost of project	37,766,856	72,813,100	2,170,080	112,750,036
3.	Cedar Bayou, TX	Regular	642,176	4,990,564	0	5,632,740
		Contributed	0	0	0	0
		Total cost of project	642,176	4,990,564	0	5,632,740
4.	Channel to Port Bolivar, TX	Regular	85,214	1,895,830	0	1,981,044
		Total cost of project	85,214	1,895,830	0	1,981,044
6.	Corpus Christi Ship Channel, TX	Regular	75,775,642	140,911,691	3,576,684	220,264,017
		Public Works	324,287	0	0	324,287
		Contributed	6,143,152	1,299,550	0	7,442,702
		Total	82,243,849	142,211,241	3,576,684	228,031,774
		Value of useful work performed	1,716,695	0	0	1,716,695
		Contributed land	276,720	0	0	276,720
		Total cost of project	84,237,264	142,211,241	3,576,684	230,025,189
8.	Freeport Harbor, TX	Regular	65,079,090	93,889,352	8,935	158,977,377
		Public Works	116,575	0	0	116,575
		Contributed	20,811,568	229,311	0	21,040,879
		Total	86,002,664	94,118,662	8,935	180,130,261
		Value of useful work performed	360,249	0	0	360,249
		Total cost of project	86,362,913	94,118,662	8,935	180,490,510
9.	Galveston Harbor and Channel, TX	Regular				
		Channel	11,920,187	123,274,263	7,373,356	142,567,806
		Seawall	8,754,209	512,163	595,973	9,862,345
		Public Works	0	13,121	0	13,121
		Contributed	3,648,932	2,982,425	0	6,631,357
		Total cost of project	24,323,328	126,781,972	7,969,329	159,074,629
10.	Gulf Intracoastal Waterway between Apalachee Bay, FL and the Mexican Border	Regular	154,494,326	596,625,149	3,390,338	754,509,813
		Public Works	466,477	0	0	466,477
		Inland WW. Trust Fund	28,634,490	0	2,955,700	31,590,190
		Contributed	6,705,311	1,955,617	0	8,660,928
		Total	190,300,604	598,580,766	6,346,038	795,227,408
		Value of useful work performed	395,000	0	0	395,000
		Contributed land	139,776	0	0	139,776
		Total cost of project	190,835,380	598,580,766	6,346,038	795,762,184
11.	Houston Ship Channel, TX	Regular	29,042,293	223,295,356	0	252,337,649
		Public Works	2,612,932	0	0	2,612,932
		Contributed	1,382,760	551,583	0	1,934,343
		Total cost of project	33,037,985	223,846,939	0	256,884,924

TABLE 40-G TOTAL COST OF EXISTING PROJECTS

See Section In Text	Project	Funds	New Work	Maintenance	Rehabilitation	Total Cost to Sep. 30, 2003
15.	Sabine-Neches Waterway, TX	Regular	49,592,331	277,125,308	0	326,717,639
		Public Works	1,363,652	0	0	1,363,652
		Contributed	2,103,435	5,938,114	0	8,041,549
		Total	53,059,418	283,063,422	0	336,122,840
		Value of useful work performed	32,000	0	0	32,000
		Contributed land	116,760	0	0	116,760
		Total cost of project	53,208,178	283,063,422	0	336,271,600
16.	Texas City Channel, TX	Regular	15,123,207	35,725,138	726,158	51,574,503
		Public Works	136,296	0	0	136,296
		Contributed	1,023,819	0	0	1,023,819
		Total cost of project	16,283,322	35,725,138	726,158	52,734,618
17.	Trinity River and Tributaries, TX	Regular	82,482,792	27,825,311	0	108,267,349
		Contributed	66,000	0	0	66,000
		Total cost of project	82,548,792	33,557,875	0	116,106,667

TABLE 40-H CHANNEL DIMENSIONS

See Section In Text	Project	Section of Waterway	Adopted Project Dimensions: Depth in Feet (Below Mean Low Tide)	Adopted Project Dimensions: Bottom Width (Feet)	Improved Project Dimensions: Depth in Feet (Below Mean Low Tide)	Improved Project Dimensions: Bottom Width (Feet)	Length: Feet	Length: Miles
2.	Brazos Island Harbor, TX	Outer Bar and Jetty Channel	44	400	44	400		2.5
		Padre Island to Long Island	42	250	42	250		2.1
		Long Island to Goose Island	42	250	42	250		9.6
		Goose Island to Turning Basin Extension	42	300	42	300		3.2
		Turning Basin Extension	42	325	42	375		1.3
		Brownsville Turning Basin	36	1,200	36	660-1,200	2,670	0.5
		Port Isabel Channel via East Turnout	36	200	36	200		1.4
		West Wye, from Brownsville Channel	36	200	36	200		0.8
		Port Isabel Turning Basin	36	200-1,000	36	200-1,000	1,300	0.2
		Fishing Boat Harbor:						
		West Basin	15	370-305	15	370-305	1,470	0.3
		Middle Basin	15	370-305	15	370-305	1,200	0.2
		East Basin	15	370	15	370	1,470	0.3
		Connecting Channel	15	270	15	265	1,230	0.2
		Entrance Channel	15	100	15	100	770	0.1
3.	Cedar Bayou, TX	Houston Ship Channel to Bayou Mile 3.0	10	100	10	100		5.7
		Bayou Mile 3.0 to Mile 11.0[7]	10	100	-	-		-
4.	Channel to Port Bolivar, TX	Port Bolivar Channel	30	200	30	200	-	-
		Turning Basin	30	750[1]	14	200	900	0.2
5.	Clear Creek and Clear Lake, TX	Galveston Bay to Clear Creek	7	75	7	75		1.5
		North Fork Channel	7	60	7	60		0.7
		Channel through Clear Creek and Clear Lake	7	60	7	60		7.7
6.	Corpus Christi Ship Channel, TX	Aransas Pass Outer Bar Channel	47	700	47	700		1.8
		Aransas Pass Jetty Channel	45	600-730	45	600		1.0
		Inner Basin at Harbor Island	45	730-1,720	45	Irregular	1,550	–
		Channel to Port Aransas	12	100-150	12	100		0.1
		Port Aransas Turning Basin	12	200-400[2]	12	200[2]	200	–
		Anchorage Basin at Port Aransas	12	300-400	12	300-400	900	0.2

TABLE 40-H CHANNEL DIMENSIONS

See Section In Text	Project	Section of Waterway	Adopted Project Dimensions: Depth in Feet (Below Mean Low Tide)	Adopted Project Dimensions: Bottom Width (Feet)	Improved Project Dimensions: Depth in Feet (Below Mean Low Tide)	Improved Project Dimensions: Bottom Width (Feet)	Length: Feet	Length: Miles
6.	Corpus Christi Ship Channel, TX (continued)	Inner Basin to Mile 8.5	45	600-500	45	600-500		8.5
		Mile 8.5 to LaQuinta Junction	45	500	45	500		3.6
		LaQuinta Junction to Corpus Christi Turning Basin	45	400	40-45	400		8.6
		Corpus Christi Turning Basin	45	800	45	1,000	5,423	1.0
		Industrial Canal	45	400	45	400		1.1
		Avery Point Turning Basin	45	975	45	1,000	1,150	0.2
		Channel to Chemical Turning Basin	45	400	45	350		0.6
		Chemical Turning Basin	45	1,200[5]	45	1,050[5]	1,690	0.3
		Tule Lake Channel	45	300	40	200		3.1
		Tule Lake Turning Basin	45	1,200	40	900	1,000	0.2
		Viola Channel	45	300-350	40	200-250		1.8
		Viola Turning Basin	45	1,200	40	700-900	1,000	0.2
		Channel to LaQuinta	45	300-400	45	300-400		5.6
		LaQuinta Turning Basin	45	1,200	45	1,200	800	0.1
		Turning Point at LaQuinta Channel Junction	45	1,250[3]	45	1,250[3]	1,250	0.2
		Jewel Fulton Canal	12	100	12	100	–	0.8
		Jewel Fulton Turning Basin	12	200	12	200	400	0.1
		Mooring Area at Ingleside:						
		Mooring Area (a)	45	150	45	150	–	0.8
		Mooring Area (b)	45	150	–	–	–	–
7.	Double Bayou, TX	Double Bayou Channel:						
		Mouth to 7-foot contour in Trinity Bay	7	125	7	125	–	3.9
		West Fork	7	100	7	100	–	2.0
8.	Freeport Harbor, TX	Outer Bar Channel	47	400	47	300	–	3.0
		Jetty Channel	45	400	45	200	–	0.8
		Quintana Turning Basin	45	750[4]	–	–	–	–
		Channel to Brazosport Turning Basin	45	400	45	390	–	1.2
		Brazosport Turning Basin	45	1,000[4]	45	1000	667	0.1
		Channel to Upper Turning Basin	45	285-375	45	285-375	–	1.4
		Upper Turning Basin	45	1,200[4]	45	1200[4]	800	0.1
		Channel to Stauffer Chemical Plant	30	200	30	200	–	1.1

TABLE 40-H CHANNEL DIMENSIONS

See Section In Text	Project	Section of Waterway	Adopted Project Dimensions: Depth in Feet (Below Mean Low Tide)	Adopted Project Dimensions: Bottom Width (Feet)	Improved Project Dimensions: Depth in Feet (Below Mean Low Tide)	Improved Project Dimensions: Bottom Width (Feet)	Length: Feet	Length: Miles
8.	Freeport Harbor, TX (continued)	Stauffer Turning Basin	30	500	25	500	500	0.1
		Brazos Harbor Channel	36	200	30	200	–	0.5
		Brazos Harbor Turning Basin	36	750[4]	30	750[4]	675	0.1
9.	Galveston Harbor and Channel, TX	Entrance Channel	52	800	42		–	4.7
		Outer Bar Channel	52	800	42	800	–	1.7
		Inner Bar Channel	50	800	40	800	–	3.2
		Anchorage Basin	36	2,875[1]	36	2,875	–	1.8[1]
		Bolivar Roads Channel	50	800	40	800	–	1.0
		Bolivar Roads Channel to 43rd St.	40	1,125	40	1,125	–	3.9
12.	Houston Ship Channel, TX	Bolivar Roads to Morgan Point	40	400	40	400	–	26.2
		Morgan Point to Boggy Bayou	40	400	40	400	–	12.8
		Boggy Bayou to Greens Bayou	40	300	40	300	–	2.4
		Greens Bayou to Sims Bayou	40	300	40	300	–	5.3
		Hunting Bayou Turning Point	40	900-1,000[9]	40	948-1,000[9]	1,375	–
		Clinton Island Turning Basin	40	800[9]	40	965-1,070[9]	1,592	–
		Sims Bayou to Southern Pacific Slip	40	300	40	300	–	0.6
		Southern Pacific Slip to Houston Turning Basin	36	300	36	300	–	2.9
		Houston Turning Basin	36	400-1,000	36	400-1,000	3,100	0.6
		Upper Turning Basin	36	150	36	150	1,000	0.2
		Brady Island Channel	10	60	10	60	–	0.9
		Barbour Terminal Channel	40	300	40	300	–	3.1
		Turning Basin	40	2,000	40	2,000	2,000	0.4
		Bayport Ship Channel	40	300	40	300	–	3.8
		Turning Basin	1,600	40	1,600	1,000	0.3	–
		Anchorage Area	150	40	150	–	–	1.9
		Five-Mile Cut Channel	8	125	8	125	–	
		Light-Draft Channel: Upper Turning Basin to Jensen Drive	10	60	10	60	–	4.1
		Turkey Bend Channel	10	60	10	60	–	0.8
		Greens Bayou Channel:						

TABLE 40-H CHANNEL DIMENSIONS

See Section In Text	Project	Section of Waterway	Adopted Project Dimensions: Depth in Feet (Below Mean Low Tide)	Adopted Project Dimensions: Bottom Width (Feet)	Improved Project Dimensions: Depth in Feet (Below Mean Low Tide)	Improved Project Dimensions: Bottom Width (Feet)	Length: Feet	Length: Miles
12.	Houston Ship Channel, TX	Mile 0 to Mile 0.36	40	175	40	175	–	0.3
		Mile 0.36 to Mile 1.57	15	100	15	100	–	1.3
13.	Matagorda Ship Channel, TX	Outer Bar and Jetty Channel	38	300	38	300	–	3.2
		Channel to Point Comfort	36	300-200[6]	36	300-200[6]	–	20.9
		Approach Channel to Turning Basin	36	200-300	36	200-300	–	1.1
		Turning Basin	36	1,000	36	1,000	1,000	0.2
		Channel to Port Lavaca	12	125	12	125	–	4.1
		Lynn Bayou Turning Basin	12	27-340	12	27-340	532	0.1
		Channel to Harbor of Refuge	12	125	12	125	–	1.9
		North-South Basin	12	300	12	300	1,682	0.3
		East-West Basin	12	250	12	250	1,750	0.3
		Channel to Red Bluff	6	100	6	100	–	20.2
15.	Sabine-Neches Waterway, TX	Sabine Bank Channel	42	800	42	800	–	14.7
		Sabine Pass Outer Bar Channel	42	800	42	800	–	3.4
		Sabine Pass Jetty Channel	40	800-500	40	800-500	–	4.1
		Sabine Pass Anchorage Basin	40	1,500	40	1,500	3,000	–
		Sabine Pass Channel	40	500	40	500	–	5.6
		Port Arthur Canal	40	500	40	500	–	6.2
		Entrance to Port Arthur Turning Basins	40	275-678	40	275-678	–	0.3
		Port Arthur East Turning Basin	40	420	40	370-547	1,765	0.3
		Port Arthur West Turning Basin	40	600	40	350-550	1,610	0.3
		Channel connecting Port Arthur West and Taylors Bayou Turning Basins	40	200-250	40	200-250	–	0.6
		Taylors Bayou Turning Basin	40	150-1,000	40	90-1,233	3,470	0.7
		Sabine-Neches Canal, Port Arthur Canal to Neches River	40	400	40	400	–	11.2
		Turning Point at Mile 19.5	40	900[4]	40	900[4]	–	8
		Neches River, Mouth to Maneuvering Area Beaumont Turning Basin	40	400	40	400	–	18.3
		Turning Point, Mile 31.1	40	1,000[4]	40	1,000	700	8

TABLE 40-H CHANNEL DIMENSIONS

See Section In Text	Project	Section of Waterway	Adopted Project Dimensions: Depth in Feet (Below Mean Low Tide)	Adopted Project Dimensions: Bottom Width (Feet)	Improved Project Dimensions: Depth in Feet (Below Mean Low Tide)	Improved Project Dimensions: Bottom Width (Feet)	Length: Feet	Length: Miles
15.	Sabine - Neches Waterway, TX (continued)	Turning Point, Mile 36.6	40	1,000[4]	40	1,000	930	[8]
		Turning Point, Mile 40.3	40	1,000[4]	40	1,300	1,530	[8]
		Channel Extension, Mile 40.3	36	350	36	350	1,265	0.2
		Maneuvering Area at Beaumont Turning Basin	40	Irregular	40	Irregular	1,300	0.2
		Beaumont Turning Basin	34	500	34	160-535	1,500	0.3
		Beaumont Turning Basin Extension	34	350	34	300	–	0.4
		Beaumont Turning Basin Extension to End of Project						
		Channel Vicinity Bethlehem Steel Company	30	200	30	200	–	0.7
		Sabine-Neches Canal, Neches River to Sabine River	30	200	30	200	–	4.4
		Sabine River Channel, Mouth to Foot of Green Ave.	30	200	30	200	–	9.5
		Orange Turning Basin	30	Irregular	30	Irregular	1,550	0.3
		Orange Municipal Slip	30	200	30	150-200	2,435	0.5
		Old Channel Around Harbor Island	25	150-200	25	150-200	–	2.4
		Channel to Echo[7]	12	125	–	–	–	–
		Adams Bayou	12	100	12	100	–	1.7
		Cow Bayou	13	100	13	100	–	7.0
		Orangefield Turning Basin	13	300	13	300	500	0.1
16.	Texas City Channel, TX	Texas City Channel	50	600	40	400	–	6.8
		Turning Basin	50	1,000-1,200	40	1,000	4,253	.8
		Industrial Barge Canal:[10] Channel from Texas City Turning Basin to Mile 1.7	40	300-400	–	–	–	–
		Turning Basin	40	1,000	–	–	–	–
17.	Trinity River Channel, TX	Multiple Purpose Channel to Fort Worth[11]	12	200	–	–	–	–
		Channel to Liberty[12]	9	150	6	100	–	41.4
		Anahuac Channel	6	100	6	100	–	5.8

[1] Average.
[2] Includes 100-foot channel width.
[3] Includes 450-foot channel to Corpus Christi.
[4] Diameter.
[5] Includes 350-foot channel width.
[6] 300-foot width through Matagorda Peninsula.
[7] Deauthorized.
[8] Included in channel length.
[9] Includes 300-foot channel width.
[10] Channel dredged 34 feet deep by 250-200 feet wide by 9,908 feet long and basin 34 feet deep by 1,000 feet wide by 1,150 feet long by local interests.
[11] Not constructed.
[12] 9-foot by 150-foot channel completed from Houston Ship Channel to a point one mile below Anahuac, a distance of 23 miles. Upper end not connected to river channel to prevent salt intrusion into river. River channel maintained at 6 by 100-foot from mouth to Liberty, Texas.

TABLE 40-I GULF INTRACOASTAL WATERWAY APALACHEE BAY, FL. TO MEXICAN BORDER EXISTING PROJECT DIMENSIONS , PROVIDED FOR IN TRIBUTARY CHANNELS

	Adopted Project Dimensions		Improved Project Dimensions			
Tributary Channel	Depth in Feet (Below Mean Low Tide)	Bottom Width (Feet)	Depth in Feet (Below Mean Low Tide)	Bottom Width (Feet)	Length Feet	Length Miles
Offats Bayou						
Main Channel	12	125	12	125	–	2.3
West Wye	12	125	12	125	2,200	0.4
Chocolate Bayou Channel[1]						
12-Foot Channel via						
East Turnout[2]	12	125	12	125	–	8.2
West Turnout[3]	12	125	12	125	–	0.8
9-Foot Channel[4]	9	100	–	–	–	–
Turning Basin	9	600	–	–	–	–
San Bernard River Channel[5]	9	100	9	100	–	26.0
Colorado River Channel[6]	9	100	9	100	–	15.5
Turning Basin	9	400	9	400	500	0.1
Silting Basin	9	150	9	150	–	1.0
Mouth of Colorado River[7]						
Navigation Channel, GIWW to Gulf	15-12	100-200-300	15-20	100-200-300	–	–
Turning Basin at Matagorda	12	350	–	–	–	–
Channel to Palacios[8]	12	125	12	125	–	16.1
Turning Basin No. 1	12	200	12	200	635	0.1
Turning Basin No. 2	12	300	12	300	1,130	0.2
Connecting Channel	12	150-480	12	130-400	–	0.1
Channel to Barroom Bay[9]	12	60	–	–	–	–
Channel to Victoria Main Channel via						
East Turnout	12	125	12	125	–	34.8
Turning Basin	12	600(AVG)	9	500(AVG)	800(AVG)	0.1
West Turnout Channel	12	125	12	125	–	0.8
Channel to Seadrift via South Turnout	9	100	9	100	–	2.0
Turning Basin	9	250	9	200	230	–
North Turnout Channel	9	100	9	100	–	0.5
Harbor of Refuge at Seadrift Channel	9	100	–	–	–	–
Basin	9	200	–	–	–	–
Channel to Rockport	9	200	9	200	–	2.1
Turning Basin	9	475	9	342(AVG)	1,225	0.2
Channel to Aransas Pass	14	175	14	125-175	–	6.1
Turning Basin	14	300	14	300	2,212	0.4

TABLE 40-I GULF INTRACOASTAL WATERWAY APALACHEE BAY, FL. TO MEXICAN BORDER EXISTING PROJECT DIMENSIONS , PROVIDED FOR IN TRIBUTARY CHANNELS

Tributary Channel	Adopted Project Dimensions		Improved Project Dimensions			
	Depth in Feet (Below Mean Low Tide)	Bottom Width (Feet)	Depth in Feet (Below Mean Low Tide)	Bottom Width (Feet)	Length	
					Feet	Miles
Channel to Conn Brown Harbor	14	125	14	0.2	125	–
Conn Brown Harbor	14	300	14	300	1,800	0.3
Channel to Port Mansfield[10]						
Entrance Channel	16	250	16	250	–	0.8
Approach Channel to Hopper Dredge Turning Basin	16	100	16	100	–	0.4
Hopper Dredge Turning Basin	16	300	16	300	300	0.1
Channel Across Padre Island and Laguna Madre	14	100	14	100	–	7.7
Turnout Channels, East Side of Main Channel, GIWW						
North Turnout	12	100	12	100	–	0.6
South Turnout	12	100	12	100	–	0.6
Channel West Side of Main Channel, GIWW, to P.T. of Turnout Channels	14	100	14	100	–	0.6
Turnout Channels, West Side of Main Channel, GIWW						
North Turnout	12	200	12	200	–	0.6
South Turnout	12	200	12	200	–	0.6
Channel from P.T. of Turnout Channels to Approach Channel to Main Turning Basin	14	125	14	125	–	0.6
Approach Channel to Main Turning Basin	14	200	14	200	–	0.3
Main Turning Basin	14	400	14	400	1,250	0.2
Turning Basin Extension	14	1,000	14	1,000	580	0.1
Small Craft Basin	8	160	8	160	860	0.2
Shrimp Basin	12	350	12	350	1,450	0.3
Channel to Harlingen via South Turnout from Main Channel, GIWW	12	125	12	125[11]	–	25.8[12]
Turning Basin near Rio Hondo	12	400	12	400	500	0.1
North Turnout from Main Channel	12	200	12	200	–	0.7

TABLE 40-I GULF INTRACOASTAL WATERWAY APALACHEE BAY, FL. TO MEXICAN BORDER EXISTING PROJECT DIMENSIONS , PROVIDED FOR IN TRIBUTARY CHANNELS

	Adopted Project Dimensions		Improved Project Dimensions			
Tributary Channel	Depth in Feet (Below Mean Low Tide)	Bottom Width (Feet)	Depth in Feet (Below Mean Low Tide)	Bottom Width (Feet)	Length Feet	Length Miles
Port Isabel Side Channels						
Main Channel	12	125	12	125-90	–	0.6
Main Channel	12	233-60	12	233-60	–	0.4
South Leg	12	125	12	125	–	0.2
Port Isabel Side Channels						
Main Channel	12	125	12	125-90	–	0.6
Main Channel	12	233-60	12	233-60	–	0.4
South Leg	12	125	12	125	–	0.2
Port Isabel Small Boat Harbor						
Entrance Channel	7	75	7	75	–	1.4
Harbor Channel	6	50	6	50	–	0.3
Boat Basin	6	Variable	6	72-501	1,308	0.2

[1] Includes the construction of a salt water barrier at Mile 16.9.

[2] Constructed 10 feet deep by 100 feet wide by local interests. East turnout channel constructed 150 feet wide.

[3] Constructed by local interests.

[4] Authorized to mile 13.2. Mile 8.2 to Mile 13.2 was deauthorized.

[5] Authorized to Mile 31 above mouth (channel mile 29.41). Upper 3.4 miles was deauthorized under Section 12 of PL 93-251.

[6] Includes a discharge channel from Matagorda, Texas, to the gulf, which was dredged by local interests in 1939. (Maintenance will be discontinued upon completion of improvements authorized by R&H Act of 1968.)

[7] Authorized by R&H Act of 1968. Also provides for a dam across the present discharge channel, a new 250-foot wide by 20 to 23-feet deep discharge channel into Matagorda Bay, and a 15-foot by 200-foot wide entrance channel with parallel jetties from the gulf shoreline into the Gulf of Mexico. East jetty to be 3,500 feet long and west jetty 2,900 feet long.

[8] Includes two protective breakwaters at entrance to turning basins.

[9] In the inactive category for maintenance.

[10] Also provides for two stone jetties at the gulf entrance about 1,000 feet apart. (North jetty constructed 2,300 feet long and south jetty constructed 2,270 feet long.)

[11] South turnout is 200 feet wide.

[12] Authorized to mile 31. Mile 25.8 to Mile 31 was deauthorized.

TABLE 40-J DREDGING OPERATIONS

See Section In Text	Project	Description	Period	Cubic Yards of Materials	FY 03 Cost
2.	Brazos Island Harbor, TX (Maintenance)	Dredging Brownsville Entrance Channel	December 5, 2001 to March 20, 2002	0	$145,676[1]
		Dredging Brazos Island Harbor, Brownsville Ship Channel in Cameron County	October 1, 2002 to July 20, 2003	550,148	$1,050,634[2]
		Dredging Brownsville Inside Jetty Channel in Cameron County	September 20, 2002 to May 21, 2003	308,700	$1,600,122[3]
4.	Channel to Bolivar, TX (Maintenance)	Dredging Rollover Pass to Bolivar and Channel Fronting Highway Ferry Slip At Bolivar	November 27, 2002 to May 21, 2003	102,942	$100,000
6.	Corpus Christ Ship Channel, TX (Maintenance)	Dredging LaQuinta Junction to Beacon 82 And GIWW across Corpus Christi Bay	October 1, 2002 to December 20, 2002	503,423	$413,974
		Dredging Entrance Channel to Nueces County , TX	March 5, 2003 to September 30, 2003	1,141,795	$2,080,000
		Dredging Industrial Canal through Viola Turning Basin in Nueces County, TX	December 24, 2002 to September 30, 2003	227,095	$1,360,000[4]
8.	Freeport Harbor, TX (Maintenance)	Dredging Freeport Harbor, Inside Channel And Turing Basins in Brazoria County	January 31, 2002 to May 31, 2002	0	$244,600[5]
		Dredging Freeport Harbor Entrance And Jetty Channel in Brazoria County	July 11, 2003 to September 30, 2003	1,097,559	$1,318,593
9.	Galveston Harbor and Channel , TX (Maintenance)	Dredging Bolivar roads to Pier B, US Army Corps of Engineers Boat Basin & US Coast Guard Docking Facilities in Galveston County, TX	April 17, 2003 to September 30, 2003	838,556	$840,000[6]
		Dredging Jetty and Entrance Channels in Galveston County, TX	March 5, 2003 to September 30, 2003	2,115,504	$3,120,344
10.	Gulf Intracoastal Waterway, TX Main Channel (Maintenance)	Dredging Boggy Bayou to Matagorda Bay In Brazoria and Matagorda Counties, TX	November 1, 2002 to May 16, 2003	2,295,499	$4,192,470
		Dredging GIWW, Main Channel in Matagorda Bay and Natural Bay Bottom Route	November 29, 2002 to February 13, 2003	183,871	$1,105,309
		Dredging Rollover Pass to Bolivar and Channel Fronting Highway Ferry Slip at Pt Bolivar in Chambers and Galveston Counties, TX	November 27, 2002 May 21, 2003	1,066,710	$2,273,293
		Dredging Turnstake Island to Rattlesnake Point in Aransas and Calhoun Counties	April 25, 2003 to October 20, 2003	1,258,479	$1,429,982
		Dredging Freeport Harbor to Boggy Bayou	October 1, 2002 to August 22, 2003	112,747	$140,346

TABLE 40-J DREDGING OPERATIONS

See Section In Text	Project	Description	Period	Cubic Yards of Materials	FY 03 Cost
10.	GIWW- Main Channel (Maintenance) Continued	Dredging Main Channel in Matagorda Bay and Natural Bay Bottom in Matagorda County, TX	August 20, 2003 to September 30, 2003	0	$50,000[7]
		Dredging Main Channel Aransas Bay and Tributary Channel Aransas Pass in Nueces, Aransas, and San Patricio Co.	October 1, 2002 to August 20, 2003	608,347	$636,201[8]
		Dredging La Quinta Junction to Beacon 82 And GIWW across Corpus Christi Bay	October 1, 2002 to September 30, 2003	46, 583	$135,091
		Dredging Main Channel across Redfish Bay in Nueces and San Patricio Counties	August 1, 2003 to September 30, 2003	74,375	$150,000[9]
		Dredging Baffin Bay to Port Isabel in Nueces, Kleberg, Kenedy, and Willacy Counties	September 26, 2002 to September 30, 2003	2,310,911	$3,206,350
	Channel to Victoria, TX (Maintenance)	Dredging Channel to Victoria and Channel to Seadrift in Calhoun County	October 1, 2002 to June 20, 2003	1,808,251	$1,859,410
	Mouth of Colorado River, TX (Maintenance)	Dredging Mouth of Colorado River Navigation Channel and Impoundment Basin in Matagorda County	June 4, 2003 to August 23, 2003	497,699	$1,084,808
11.	Houston-Galveston Navigation Channels, TX (New Work)	Dredging Lower Bayou	October 1, 2002 to September 30, 2003	4,660,263	$7,182,885[10]
		Dredging Mid Bay	October 1, 2002 to September 30, 2003	12,412,841	$25,152,868[11]
		Dredging Goat Island	October 1, 2002 to September 30, 2003	0	$11,641,582[12]
12.	Houston Ship Channel (Maintenance)	Dredging Mid Bay (O&M portion)	October 1, 2002 to September 30, 2003	240,412	$485,237
		Emergency Dredging Sta 730+00 to 760+00 in Harris County	May 2, 2003 to August 21, 2003	86,971	$559,838
	Barbour Terminal Channel (Maintenance)	Dredging Barbours Terminal	October 1, 2002 to September 30, 2003	190,123	$63,185
	Bayport Ship Channel (Maintenance)	Dredging Mid Bay (O&M portion)	October 1, 2002 to September 30, 2003	2,166,015	$5,636,330
13.	Matagorda Ship Channel, TX (Maintenance)	Dredging Channel to Port Lavaca and Channel to Harbor of Refuge in Calhoun County	September 13, 2002 to September 30, 2003	1,369,413	$976,424
		Dredging Galinipper Point to Point Comfort In Calhoun County	January 17, 2003 to April 12, 2003	1,3369,413	$976,424

TABLE 40-J DREDGING OPERATIONS

See Section In Text	Project	Description	Period	Cubic Yards of Materials	FY 03 Cost
15.	Sabine-Neches Waterway, TX (Maintenance)	Dredging Sabine Neches Canal Sec B And Sabine River Channel in Jefferson and Orange Counties	April 14, 2003 to September 30, 2003	426, 130	$840,000
		Dredging Pt. Arthur Canal, Junction Area And Turning Basin in Jefferson County	October 1, 2002 to March 19, 2003	1,074,572	$1,966,405
		Dredging Sabine Neches Canal, Lower Neches River Channel, Corps of Engineers And US Coast Guard Slips	October 1, 2002 to June 7, 2003	4,270,135	$4,475,170[13]
		Dredging Middle Reach Neches River Channel in Jefferson & Orange Counties	February 21, 2003 to September 30, 2003	2,660,834	$4,023,142[14]
17.	Trinity River and Tributaries, TX (Maintenance)	Dredging Channel to Anahuac in Chambers County	October 17, 2002 to January 7, 2003	233,915	$904,090
		Dredging Trinity River and Tributaries In Chambers County	October 1, 2002 to September 30, 2003	831,930	$2,948,378

[1] Final Payment.
[2] In addition $26,000 expended contributed funds from Port of Brownsville for Beach Nourishment inside the Jetty Channel.
[3] In addition $976, 225 expended from General Land Office.
[4] In addition $250,000 expended from contributed funds.
[5] Final Payment.
[6] In addition $3929,802 contributed funds for US Coast Guard Docking facilities and $99,915 for US Coast Guard Slip.
[7] Partial cost for Mobilization.
[8] Includes $240,000 Federal funds from Maintenance Operations of Dams and Improvements of Navigable Waters.
[9] Includes $100,000 Federal funds from Maintenance Operations of Dams and Improvements of Navigable Waters.
[10] In addition $2,754,193 contributed funds
[11] In addition $9,434,268 contributed funds
[12] Only construction of levees for FY 03, In addition $4,460,191 contributed funds
[13] Includes $247,500 Federal funds from Maintenance Operations of Dams and Improvements of Navigable Waters, and $1,531 contributed funds
[12] In addition $1,413,000 contributed funds.